

FIG. 9

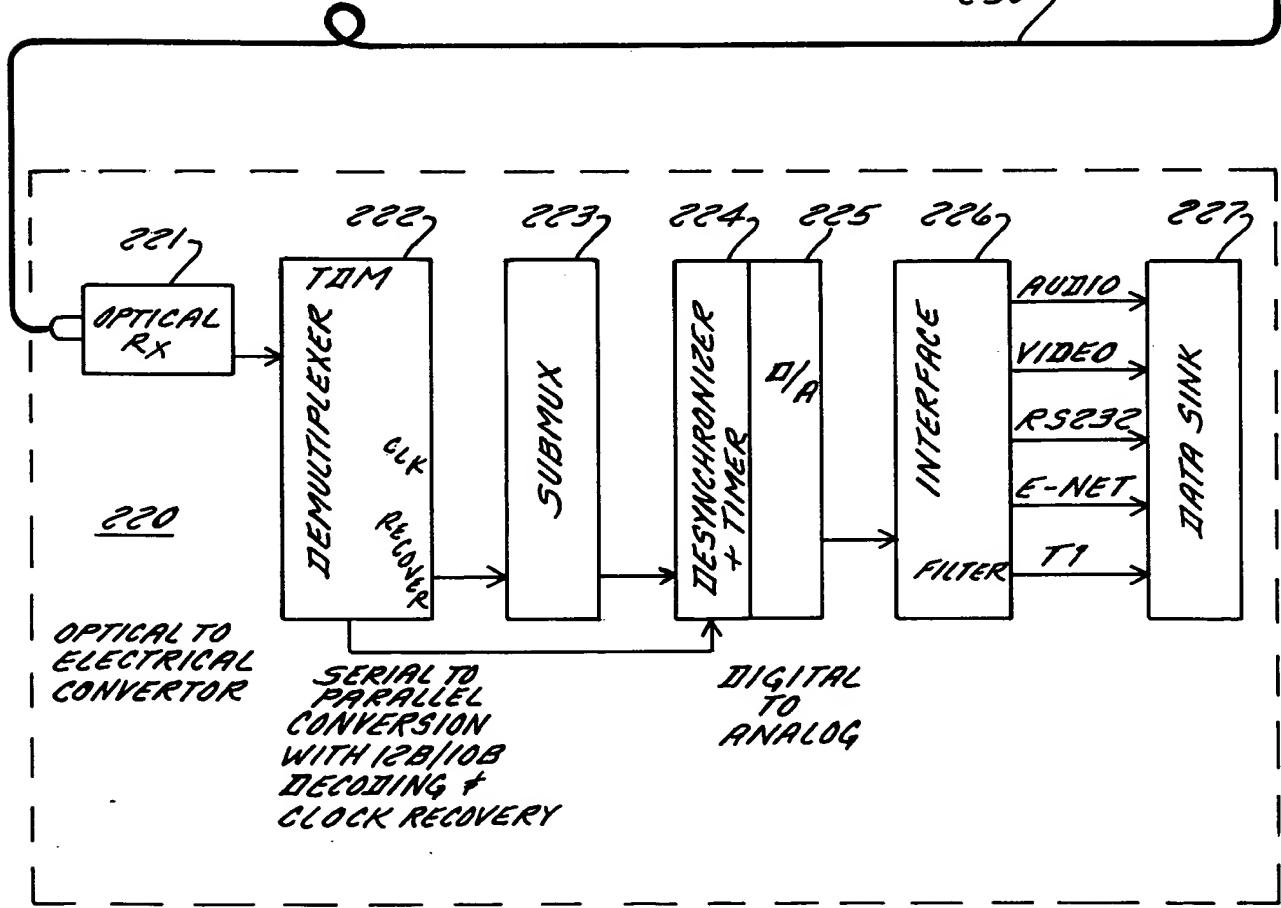
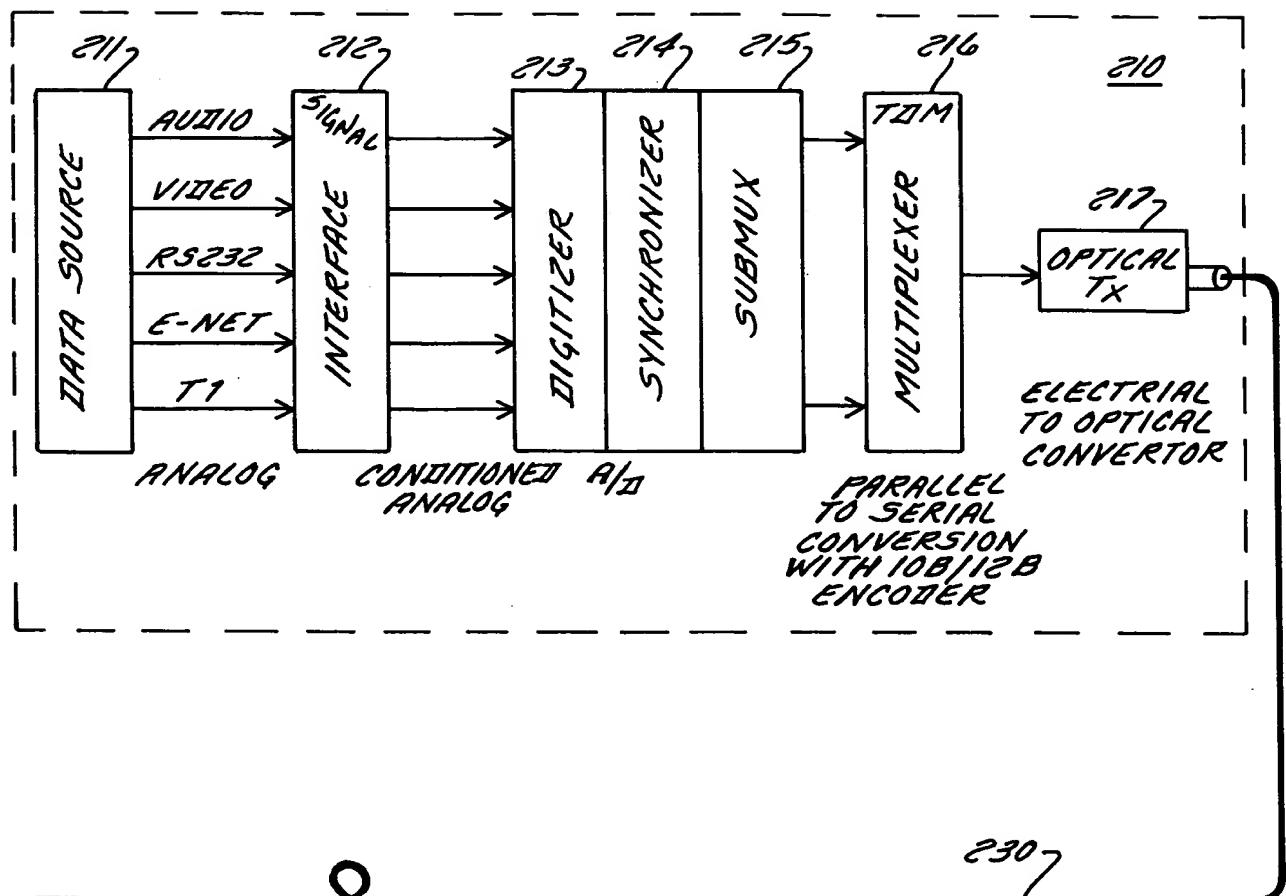
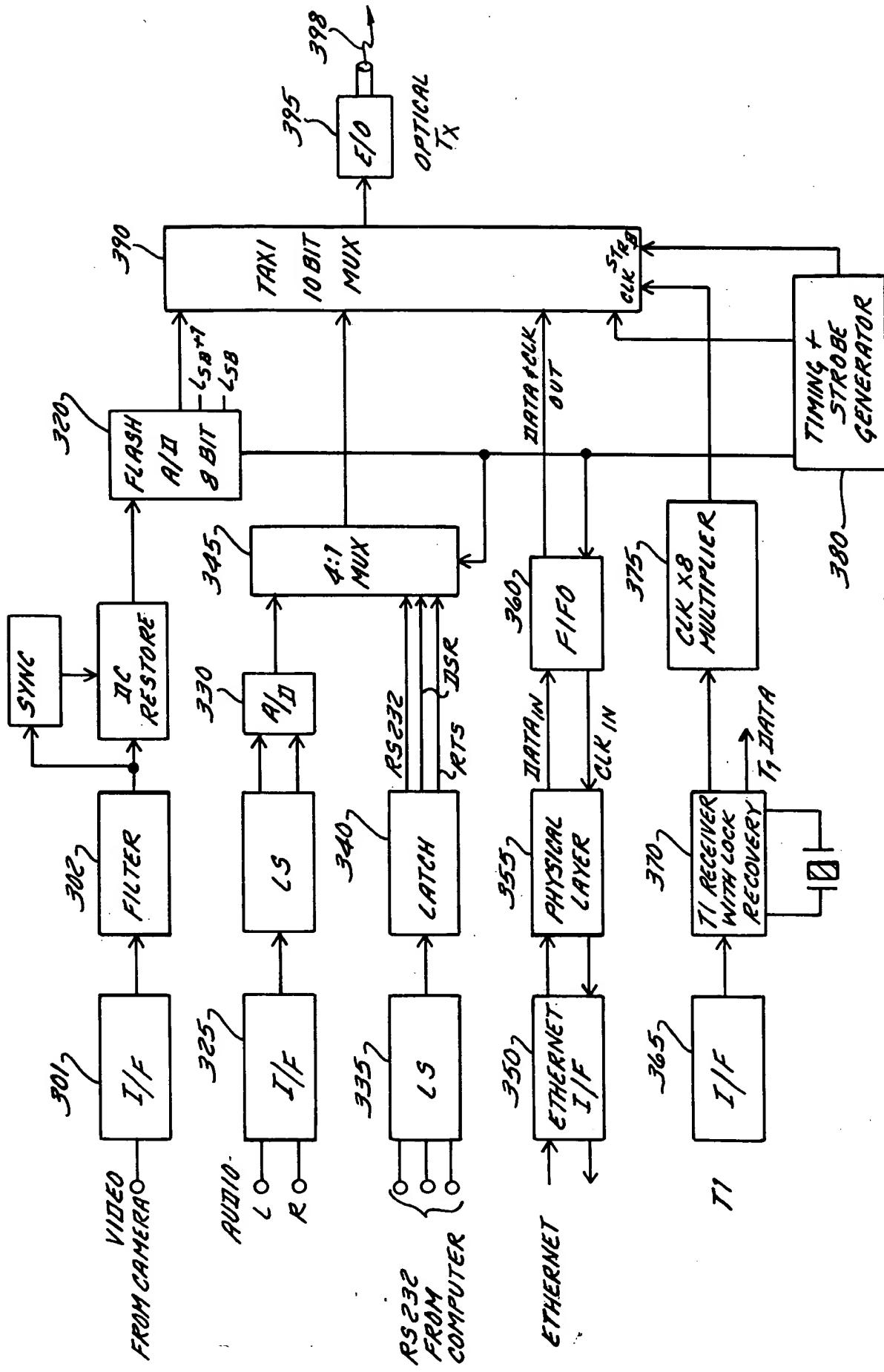


FIG. 2



**FIG. 3**

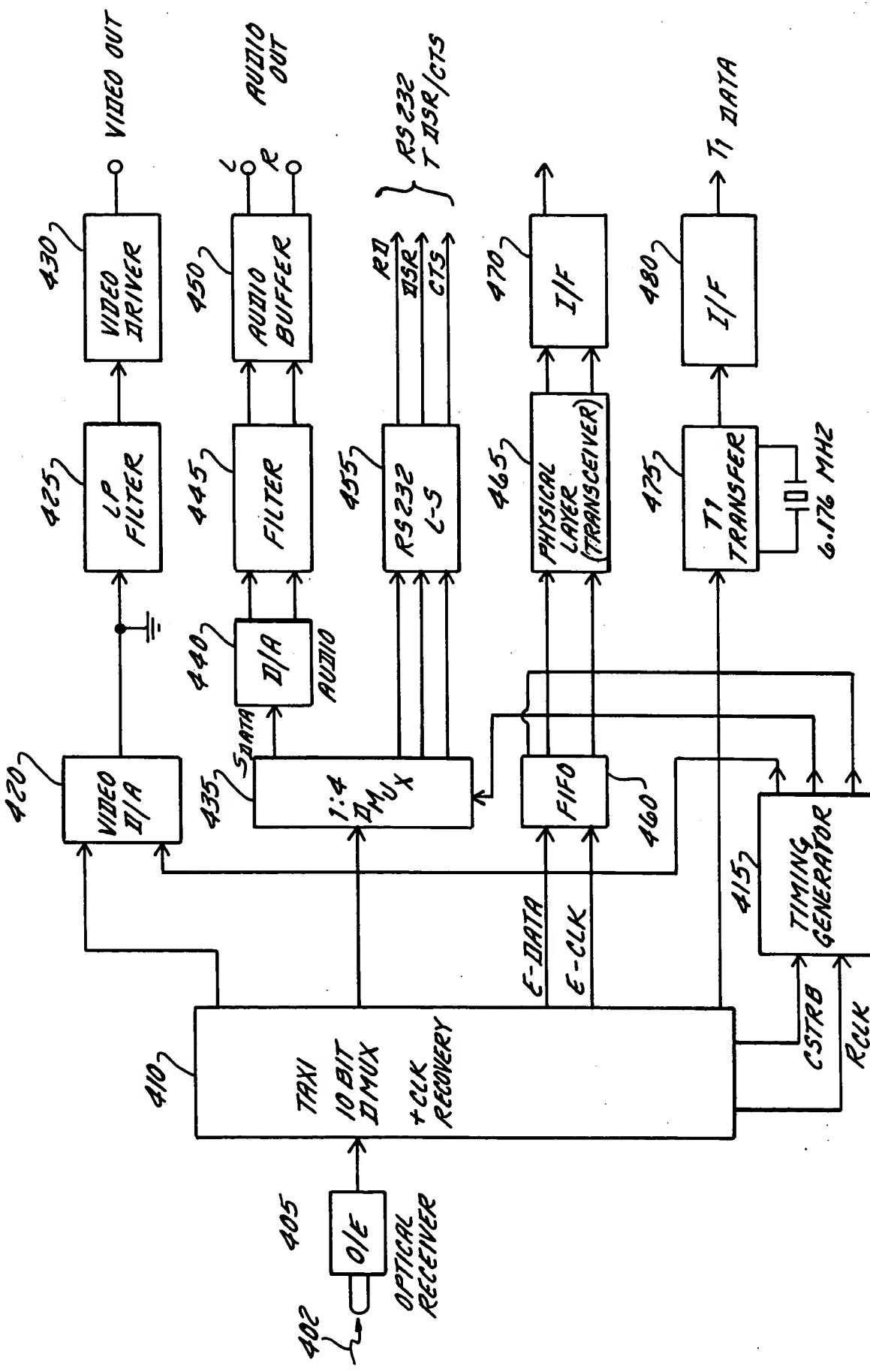


FIG. 4

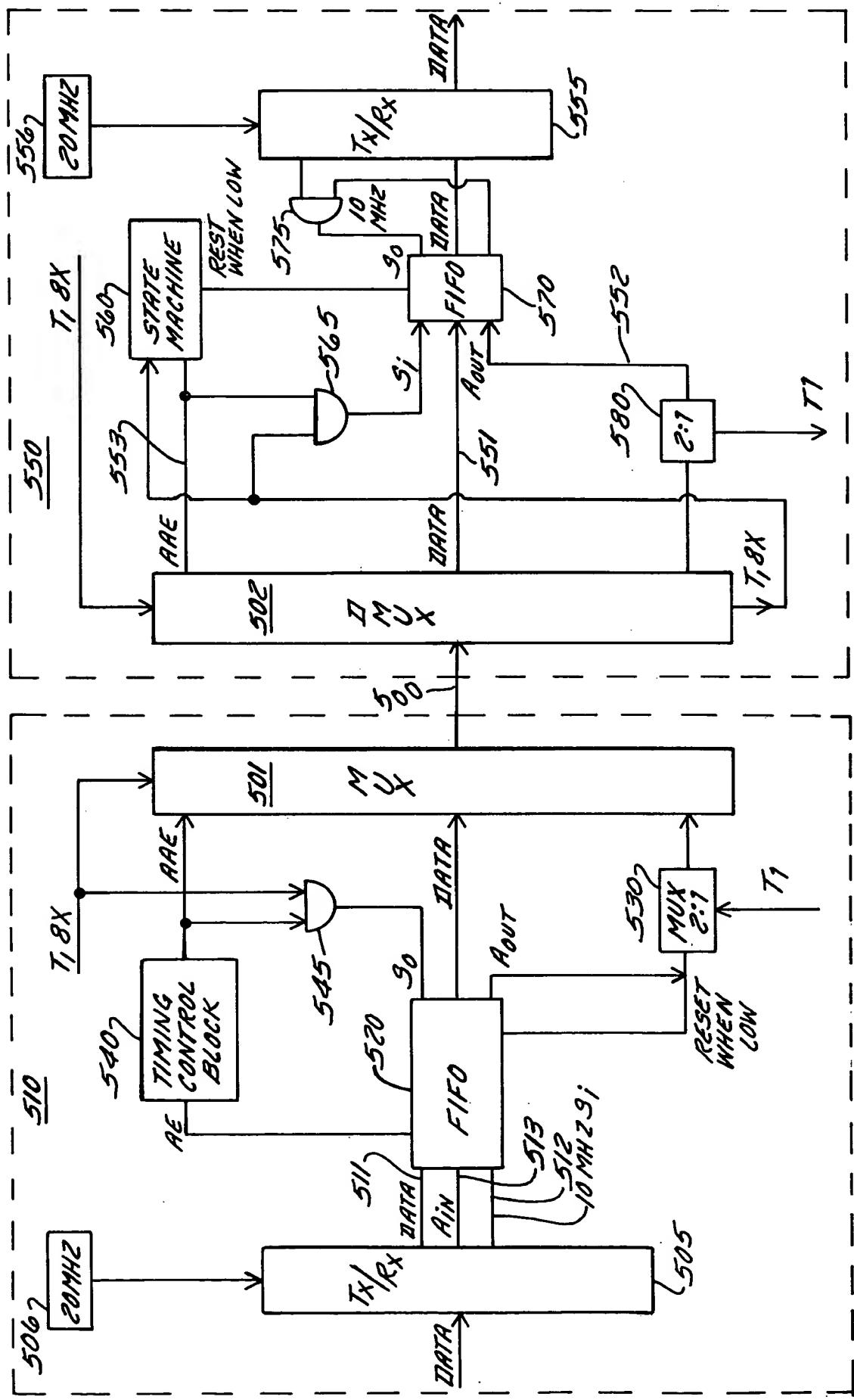


FIG. 5

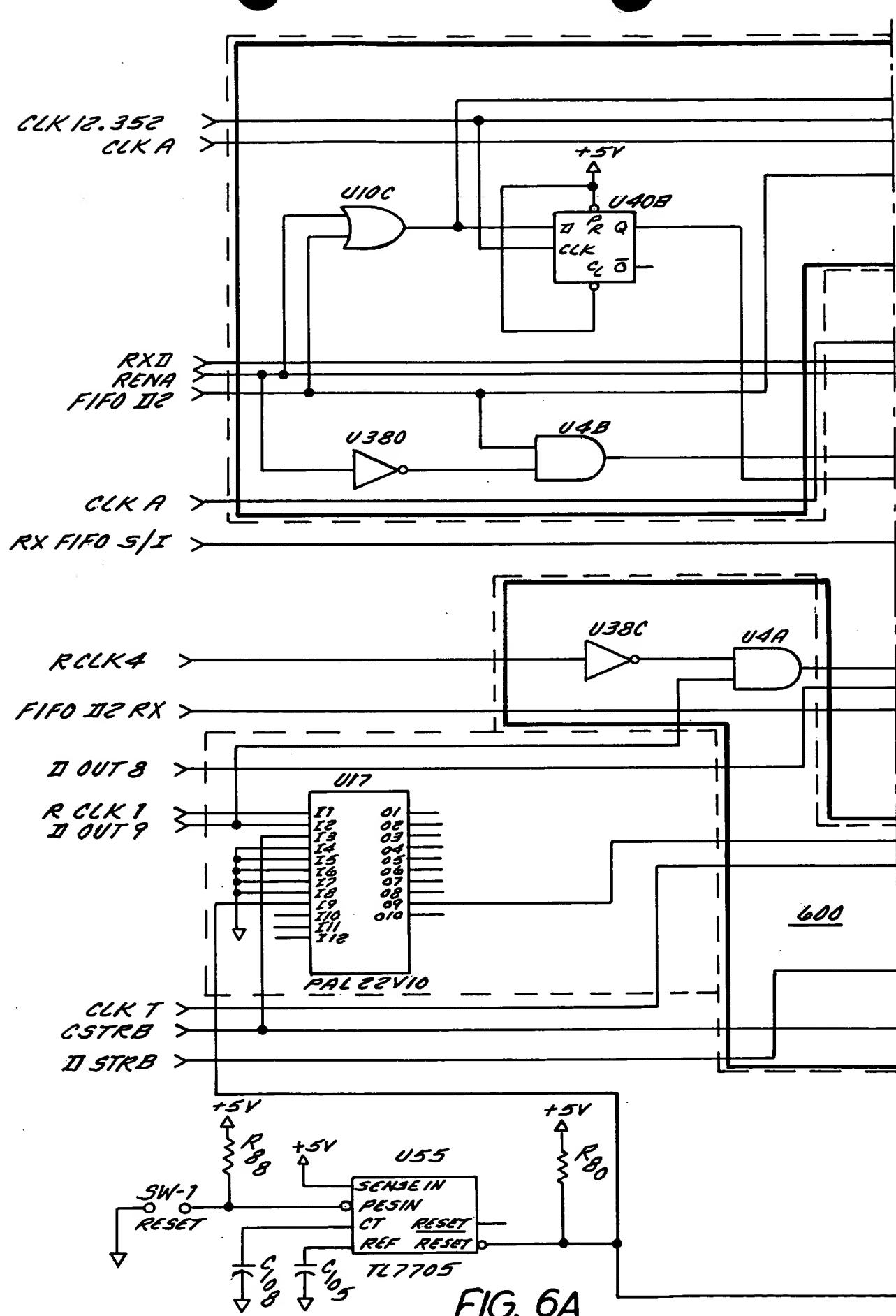


FIG. 6A

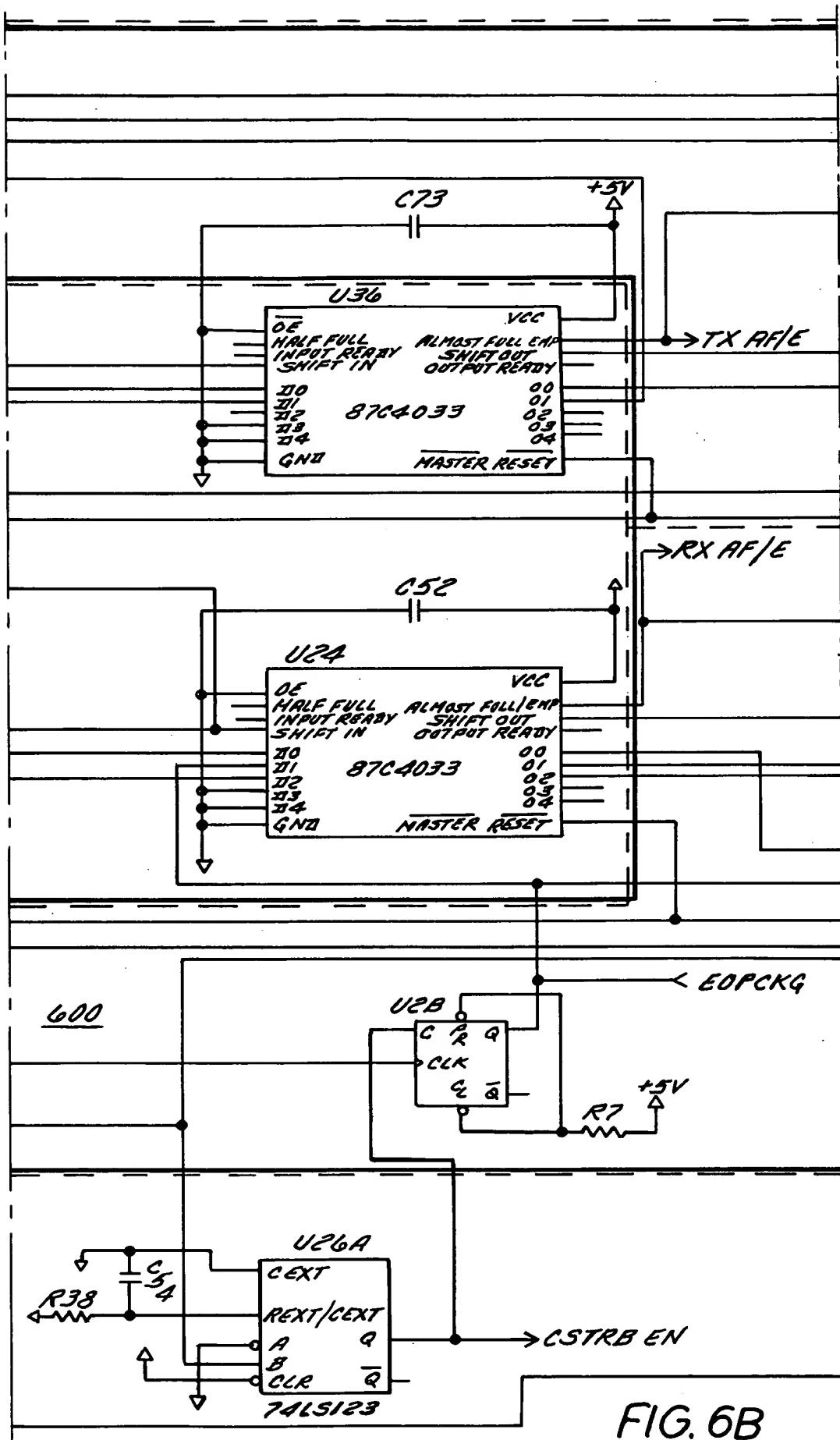


FIG. 6B

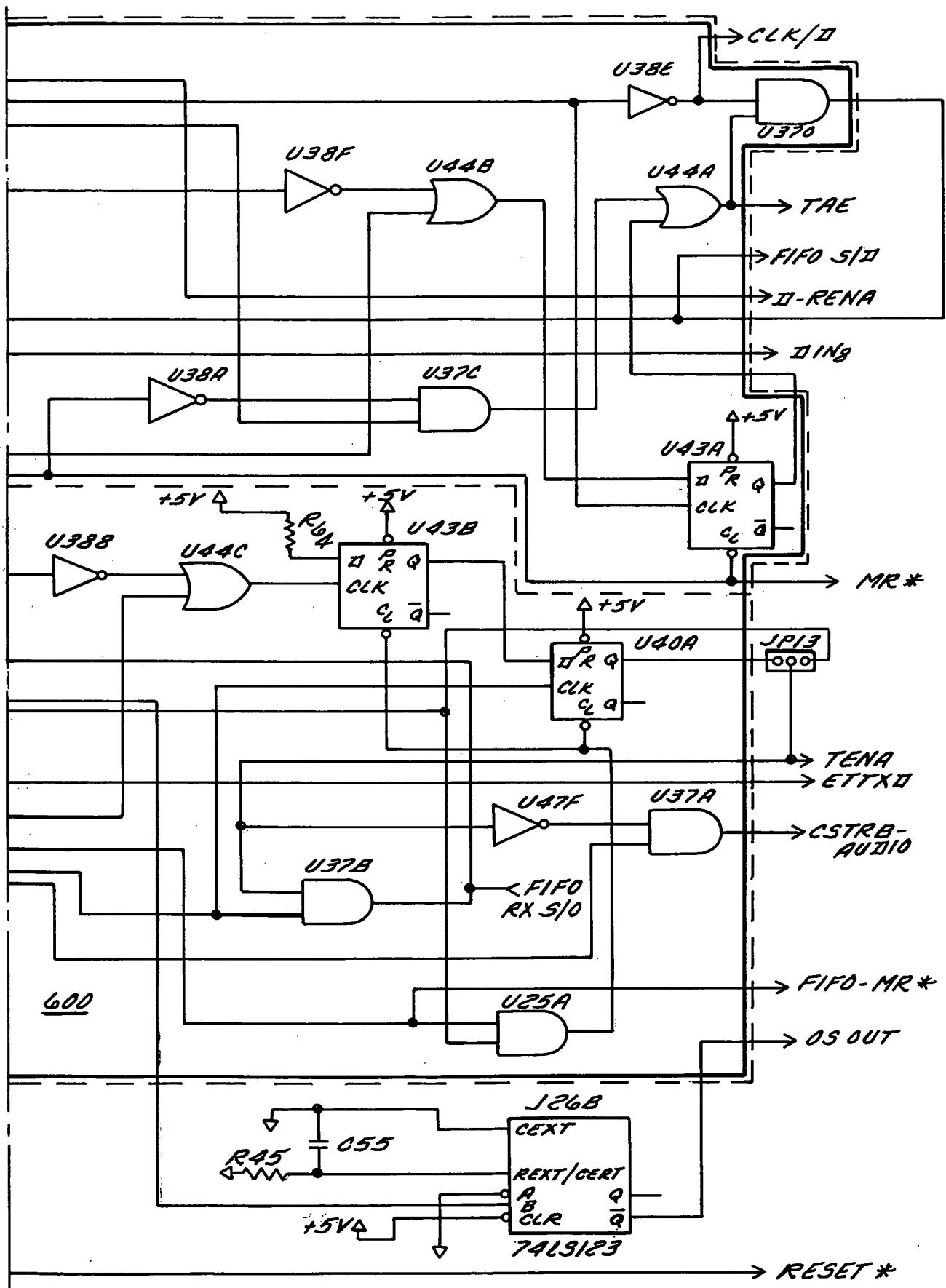


FIG. 6C

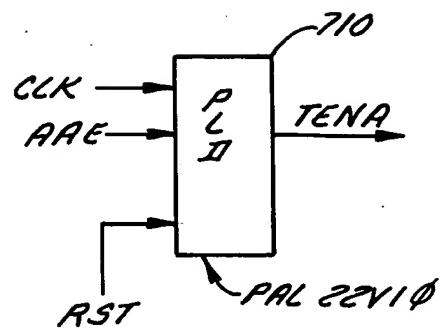


FIG. 7A

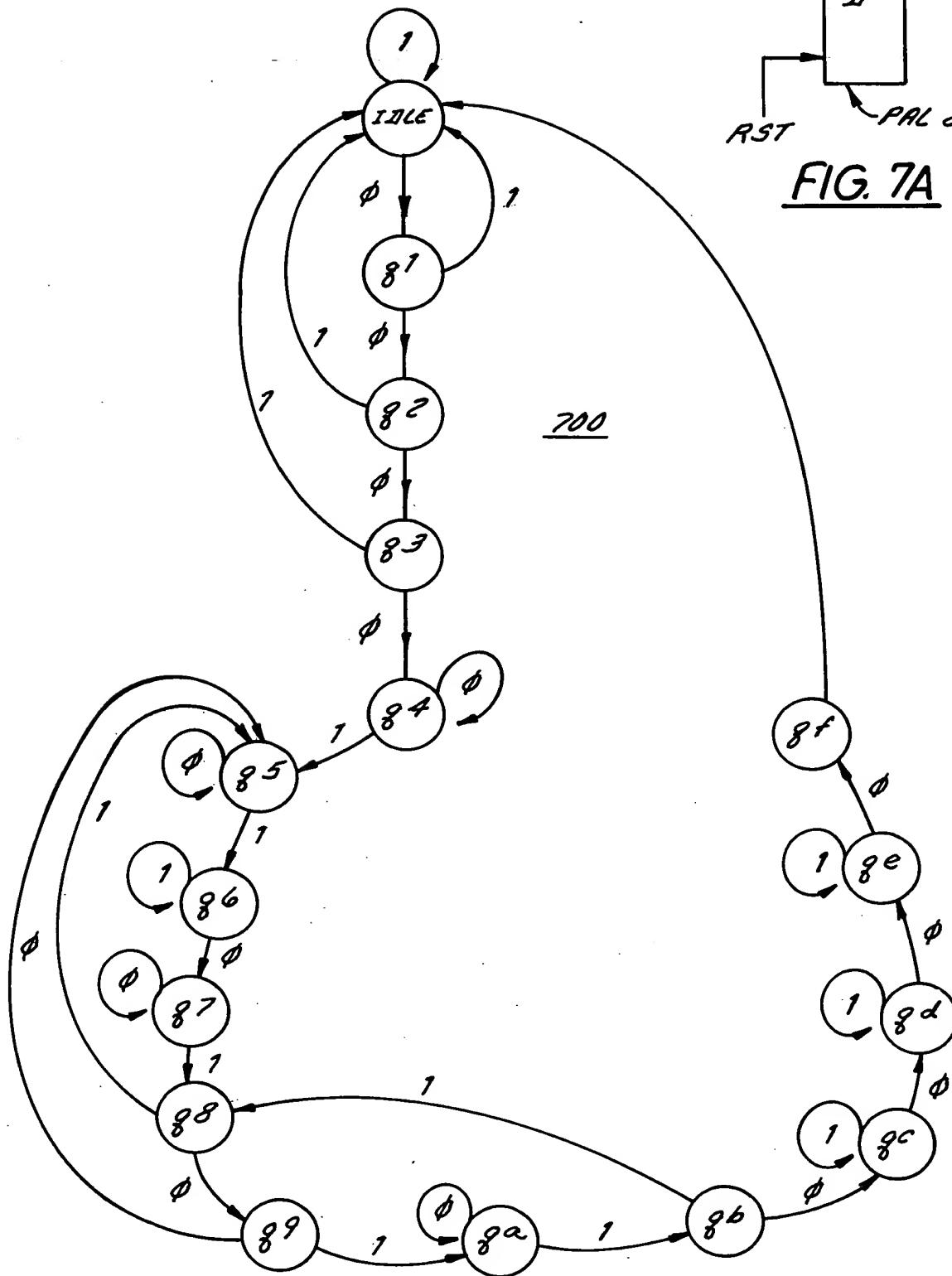


FIG. 7B

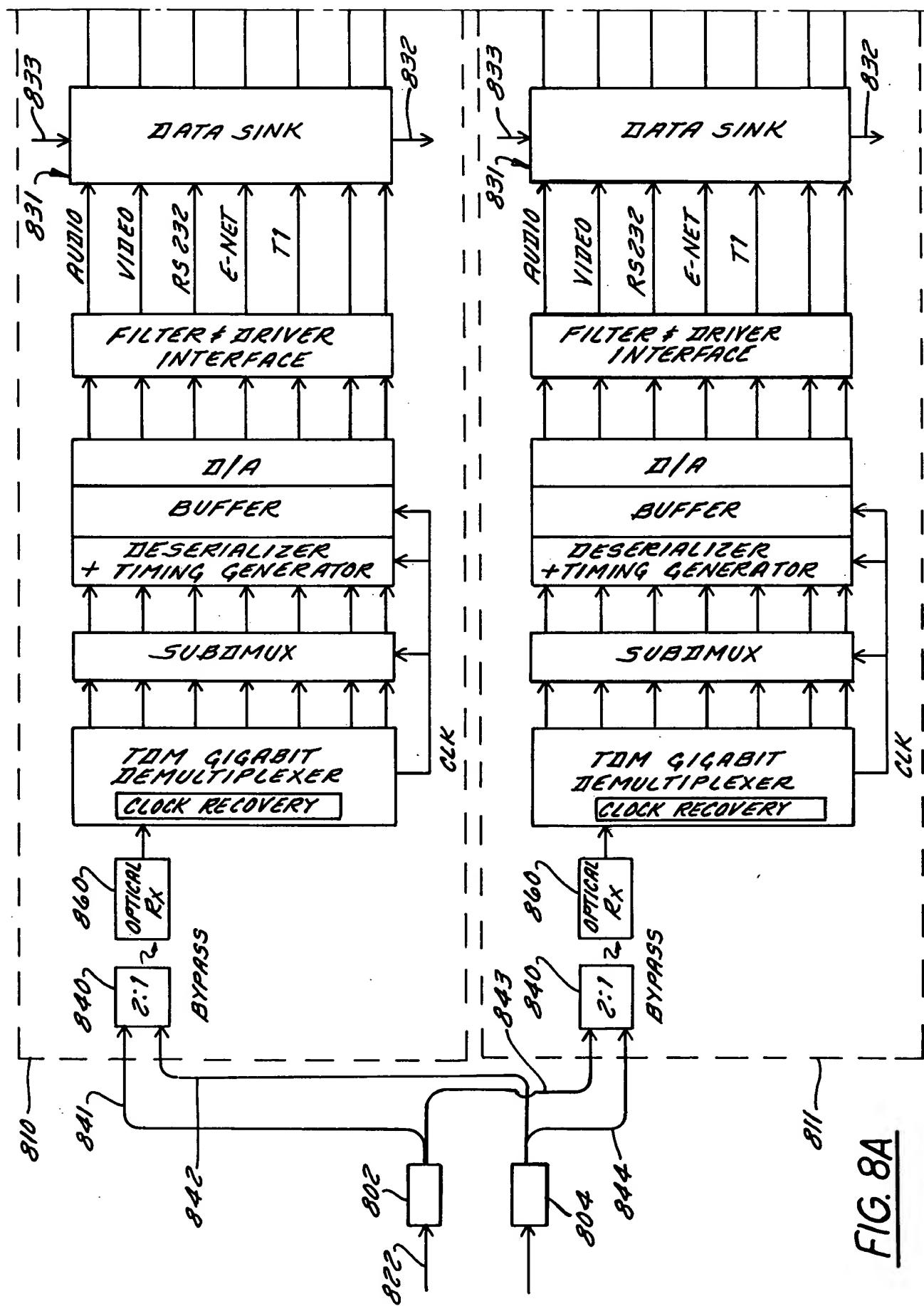
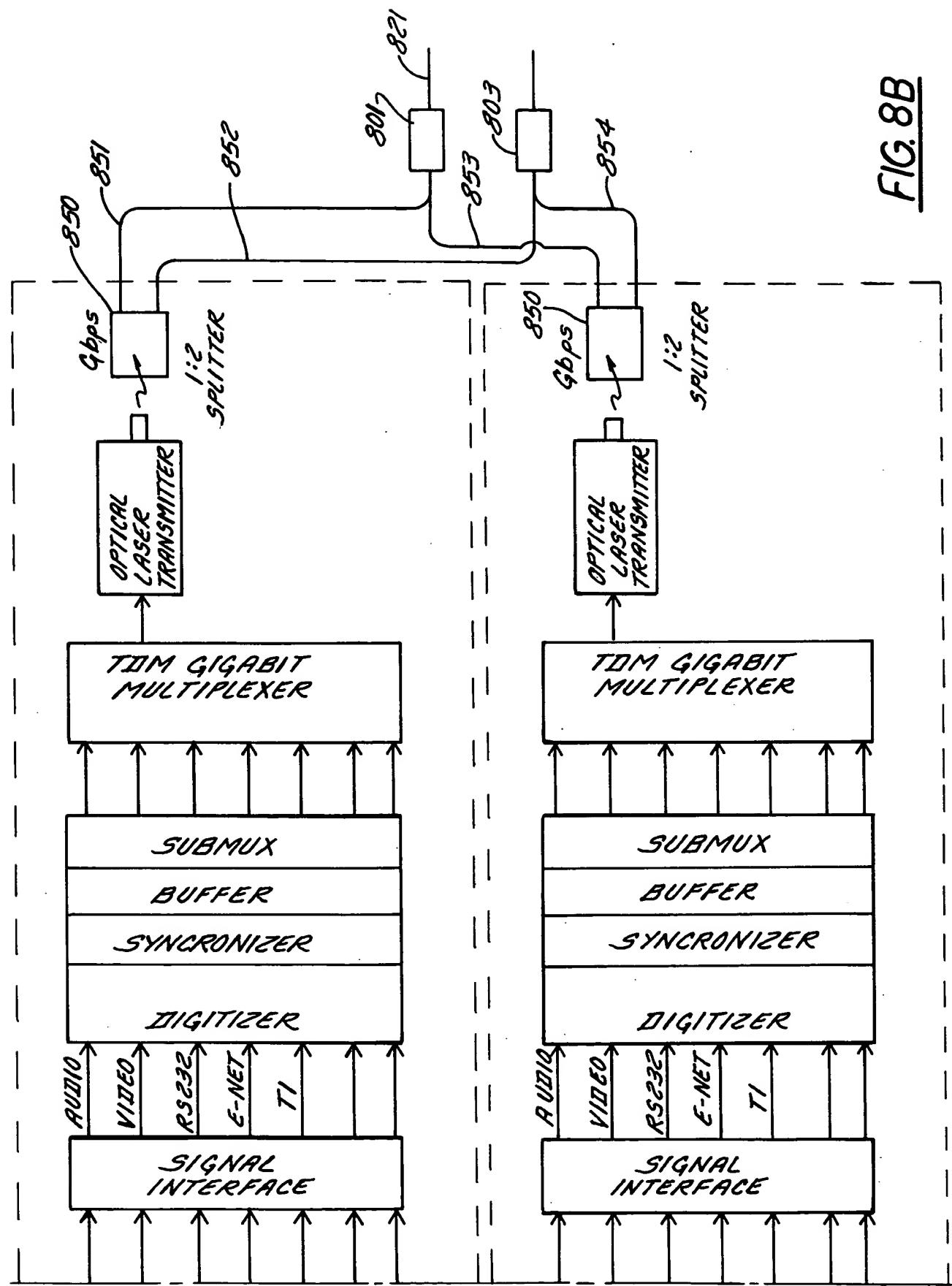


FIG. 8A

FIG. 8B



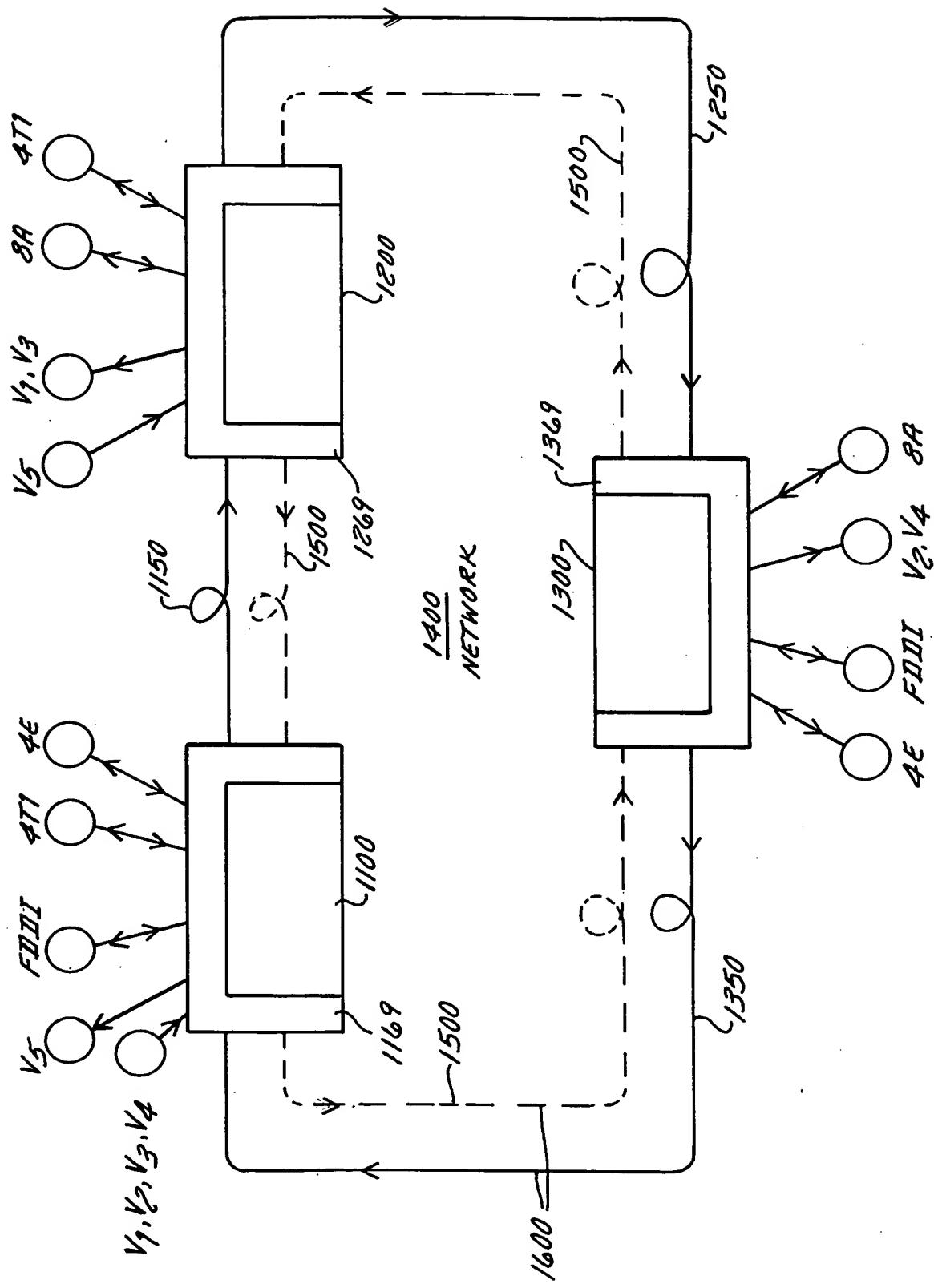
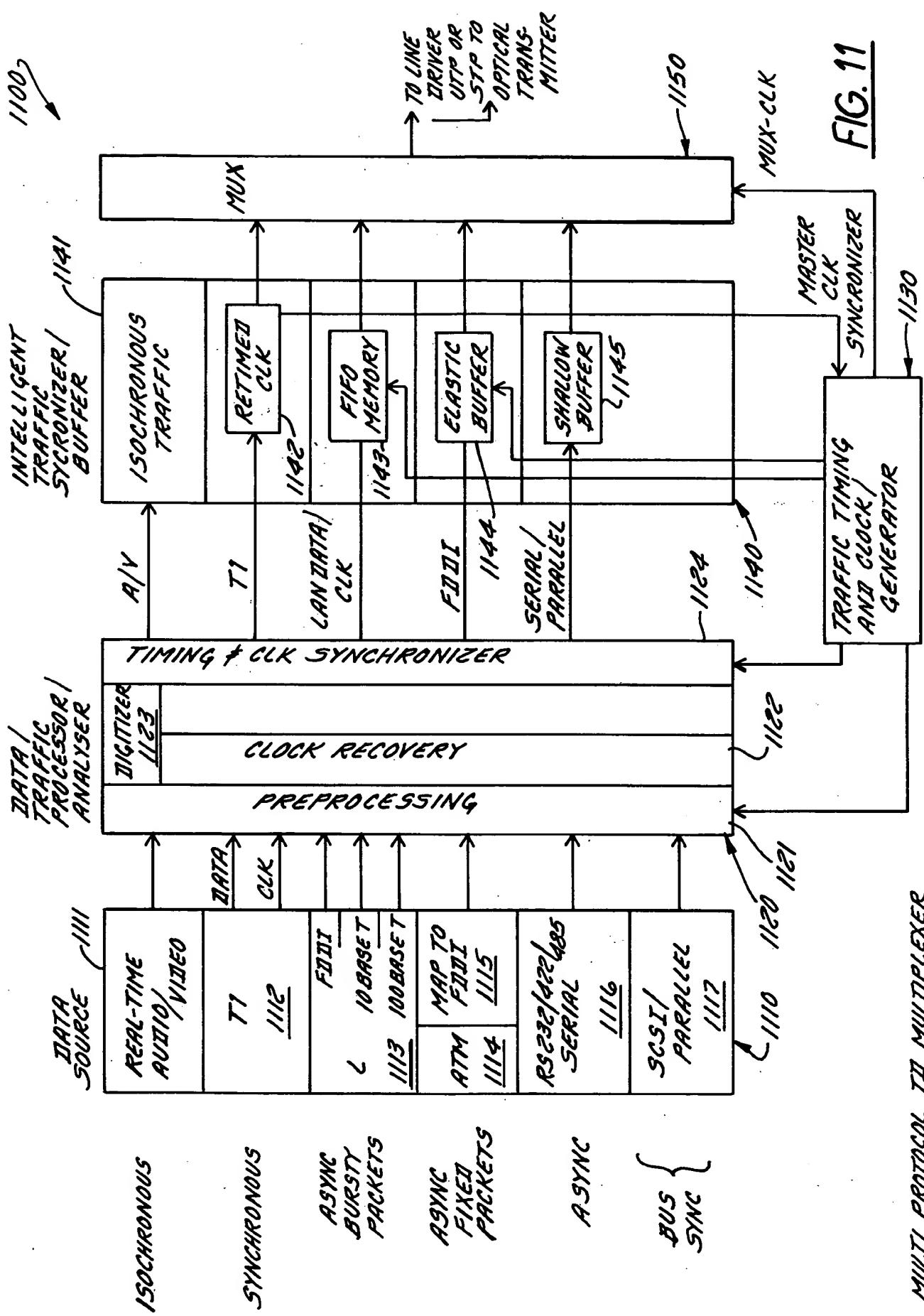


FIG. 10



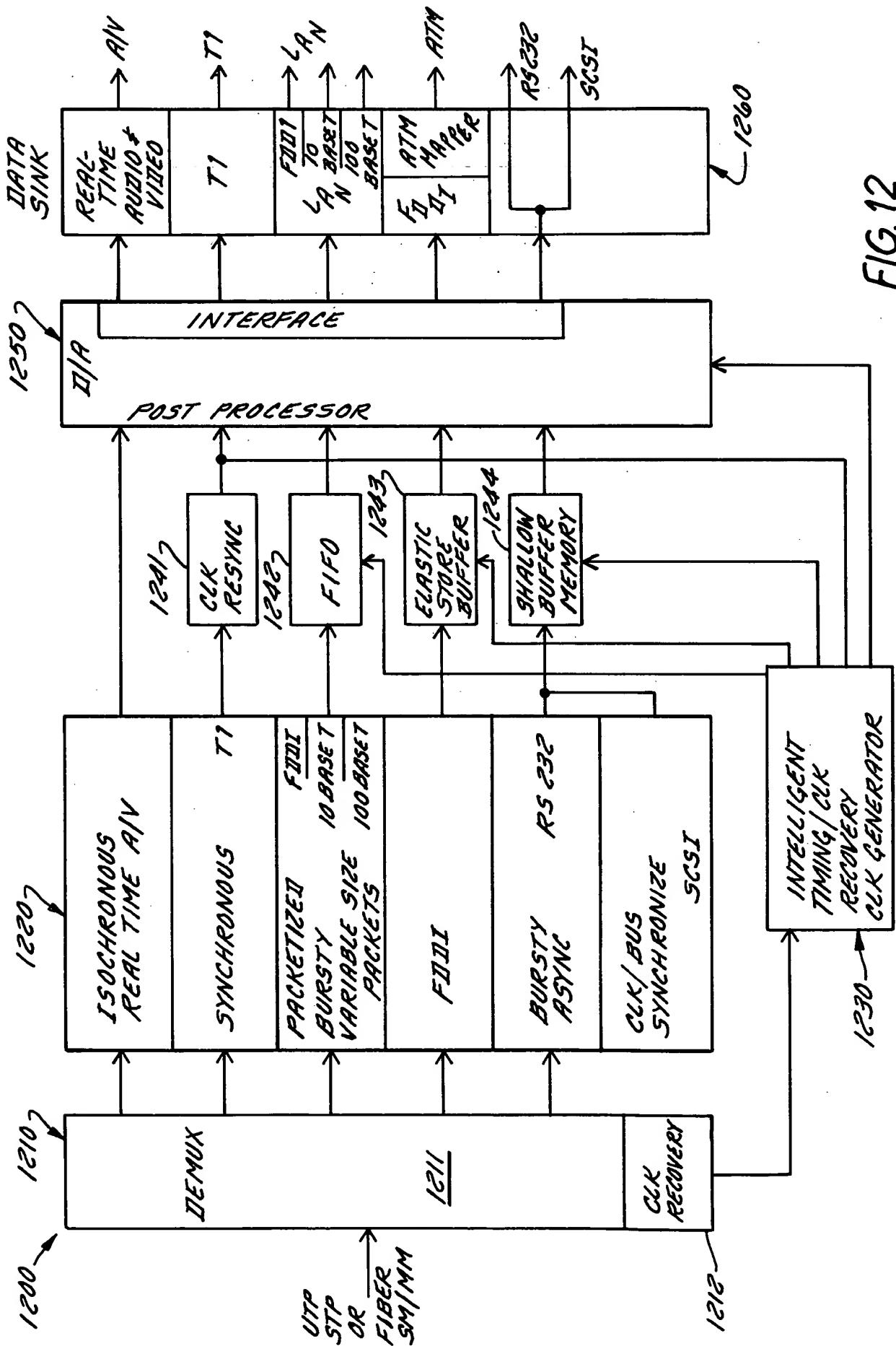


FIG. 12

## MULTI-PROTOCOL TO DEMULTI-PROTOCOL

DATA TYPE	MULTIPLEXER/DEMULTIPLEXER INTERFACE REQUIREMENT	DATA RATE	TIMING SENSITIVITY
AUDIO/VIDEO MULTIMEDIA	<ul style="list-style-type: none"> <li>CONTINUOUS SAMPLING</li> <li>LOCK MATCHING</li> <li>MINIMUM BUFFERING</li> </ul>	VARIABLE BIT RATE IN COMPRESSED MODE UNCOMPRESSED DEPENDS ON RESOLUTION & SAMPLING RATE	AUDIO/VIDEO SYNCHRONIZATION
RS232/922/485 SERIAL ASYNCHRONOUS	CAN USE BUFFER OR LOW SPEEDS USE OVERSAMPLING	VARIABLE 10kb/s → 10Mb/s	BAUD RATES NEED MATCHING
SCSI PARALLEL BUS SYNCHRONIZED	REQUIRE FIFO MEMORY	VARIABLE → 40 MBYTE/s	INTERLOCKED HANDSHAKE BUS TIMING SYNCHRONIZATION
T1	NEED DIRECT MATCHING OF T1 CLK WITH MUX SYNCHRONIZATION OF MASTER CLOCK	1.544 Mb/s	CLOCK/RECOVERY VERY STRICT TIMING REQUIRE CLK 1.544 ± 32 PPN
FDDI	NEED CLOCK RECOVERY	100 Mb/s	CLOCK RECOVERY REQUIRED ELASTIC BUFFER
CAN 10 BASE T	MINIMUM BUFFER AND STRICT DATA RATE MATCHING USING SHALLOW FIFO	10 Mb/s	CLOCK RECOVERY NEEDED
NET-WORK 100 BASE T		100 Mb/s	CLOCK RECOVERY NEEDED
WIDE AREA ST1/ST3	PRECISE NEED CLOCK RECOVERY AND DEFRAMING WITH TRANSFER TO PACKET	51.84/155.5 Mb/s	TIME/STAMP REQUIREMENT
ATM			CLOCK CORRECTION

FIG. 13A

DELAY/LATENCY SENSITIVITY	TRAFFIC TYPE	DATA STREAM	APPLICATIONS	REMARKS TYPE OF CHANNEL
CONSTANT FOR MINIMUM JITTER	CONSTANT BIT RATE LAMINAR BIT STREAM		MULTIMEDIA TELECONFERENCING VIDEO CONFERENCE SECURITY	ISOCHRONOUS
JITTER REQUIREMENT (NOT VERY TIGHT)	VARIABLE BIT RATE		COMPUTER TO COMPUTER / PERIPHERAL COMPUTER TO MEMORY	ASYNCHRONOUS BUS SYNCHRONOUS
MINIMUM JITTER REQUIREMENT FOR VOICE MIN. ACCEPTABLE LATENCY ~ 150 ms	CONSTANT BIT RATE		TELEPHONY WIDE AREA	SYNCHRONOUS
MAX. ELASTICITY FUNCTION OF NETWORK / TOKEN ROTATING TIMES	BURSTY ASYNCHRONOUS PACKETIZED		OPTICAL NETWORK IN BACKBONES	BURSTY PACKETIZED
COLLISION DOMAIN LIMITED	ASYNCHRONOUS		LAN	ASYNCHRONOUS
COLLISION DOMAIN LIMITED	ASYNCHRONOUS		LAN	ASYNCHRONOUS
VARIABLE LATENCY DEPENDING ON TRAFFIC MIN. LATENCY AND JITTER REQUIREMENT FOR VOICE/TELEPHONE AND MULTIMEDIA TRAFFIC	VBR: VARIABLE BIT RATE CBR: CONSTANT BIT RATE ABR: AVAILABLE BIT RATE ASYNCHRONOUS TRANSFER MODE ASYNCHRONOUS		WIDE AREA NETWORK	CAN MAP ATM CELLS TO FDDI PACKETS AND THE TRANSFER SYNCHRONOUSLY

FIG. 13B

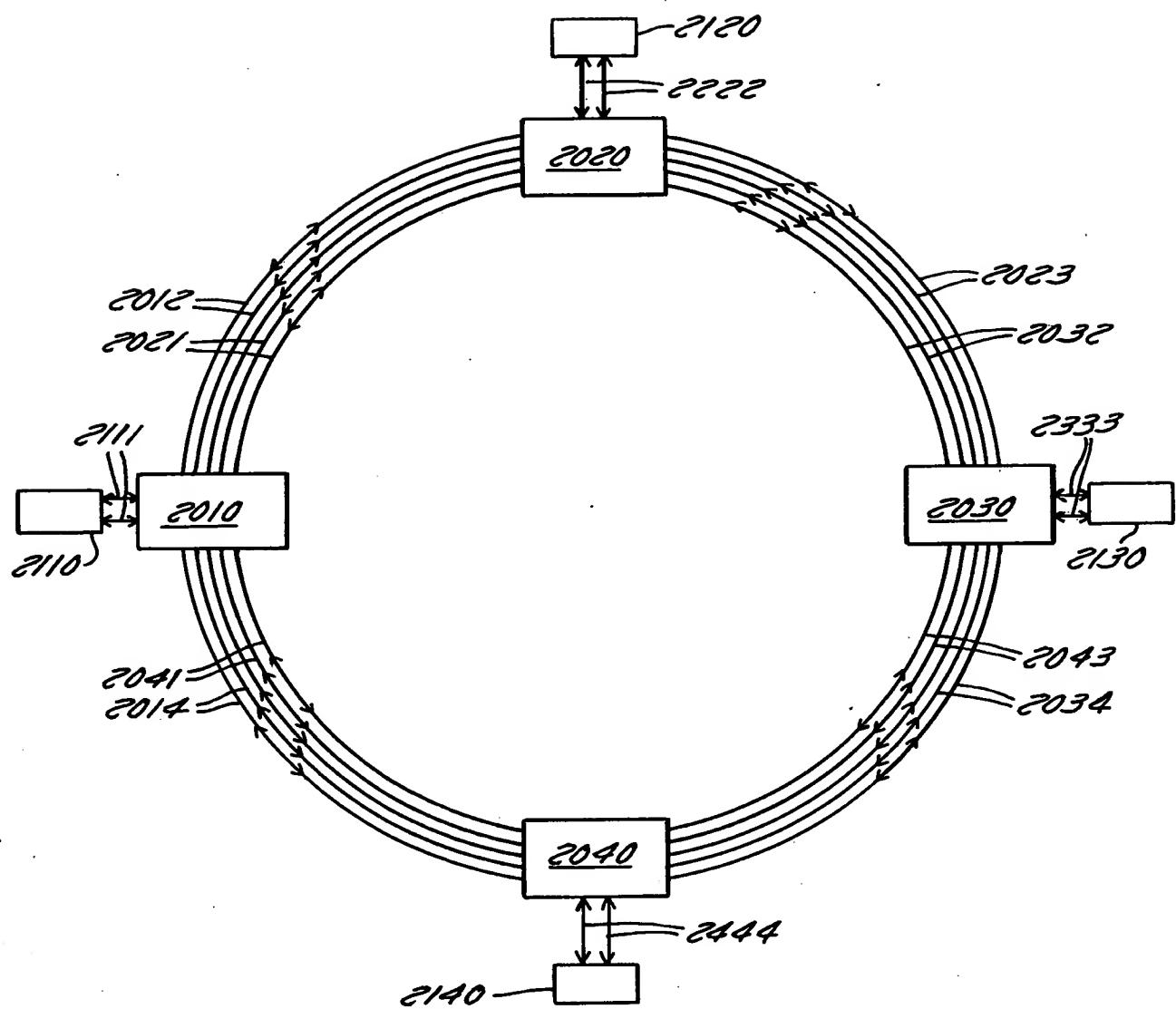


FIG. 14

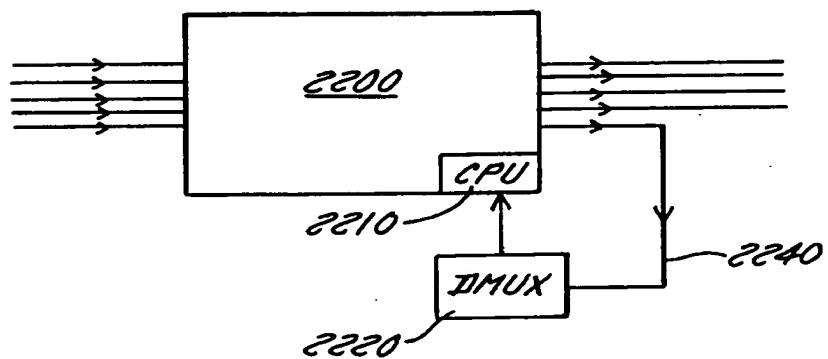


FIG. 15

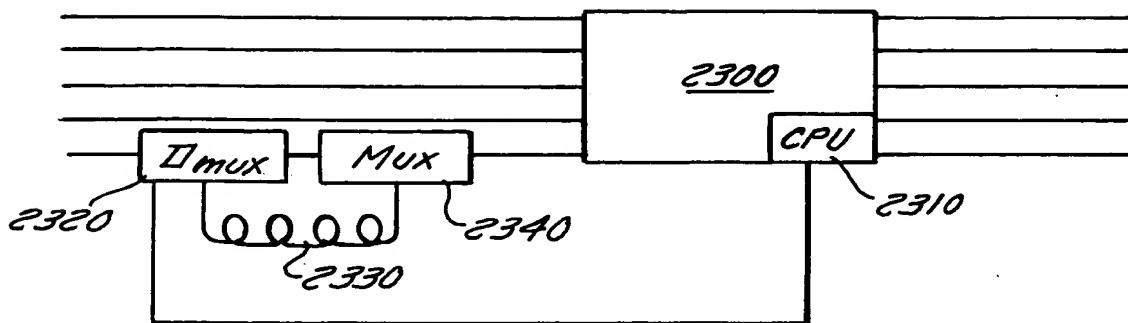


FIG. 16

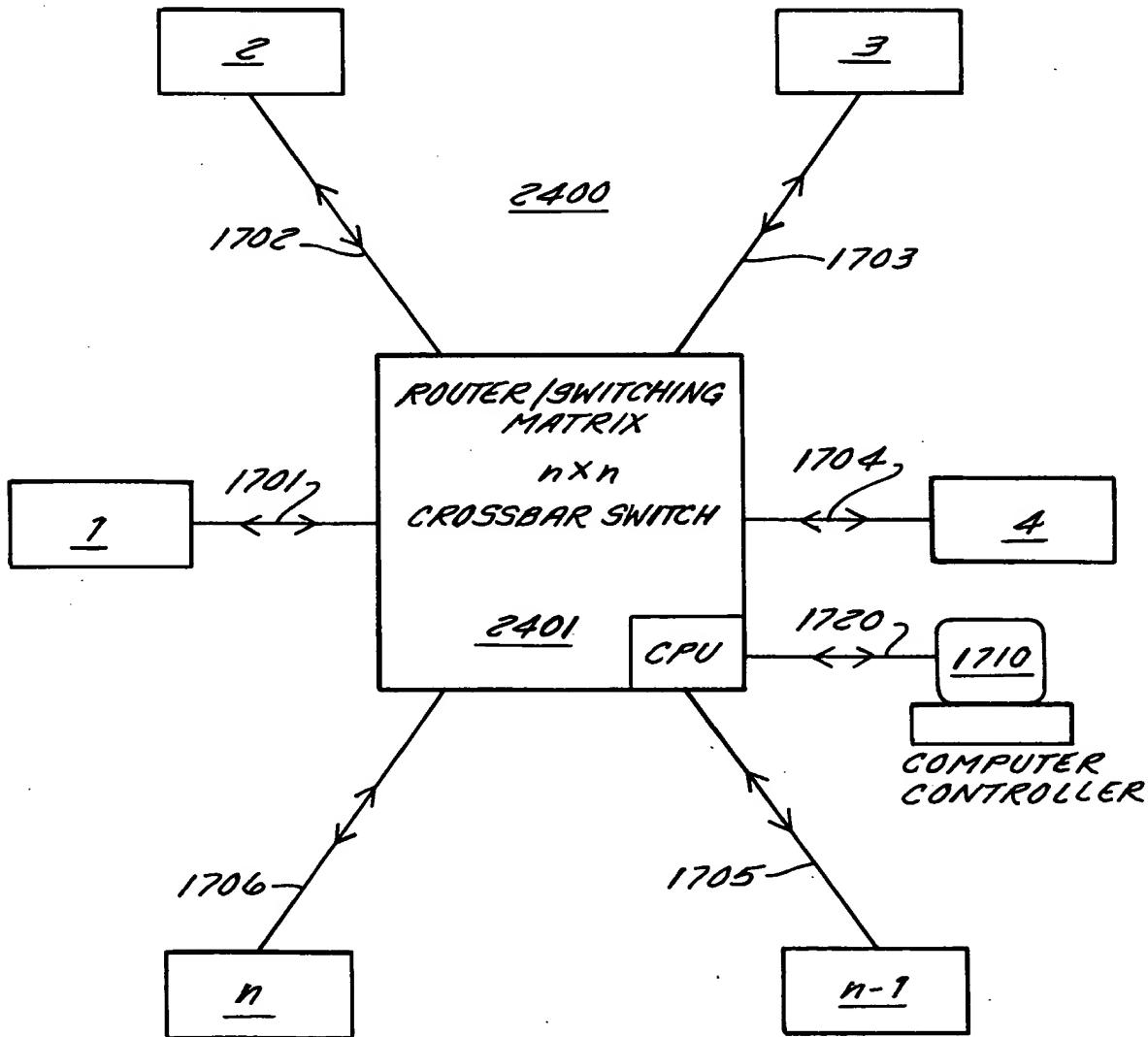


FIG. 17

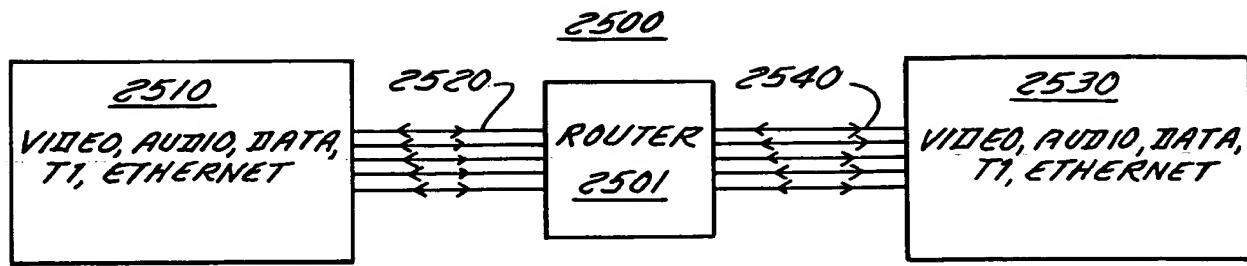


FIG. 18

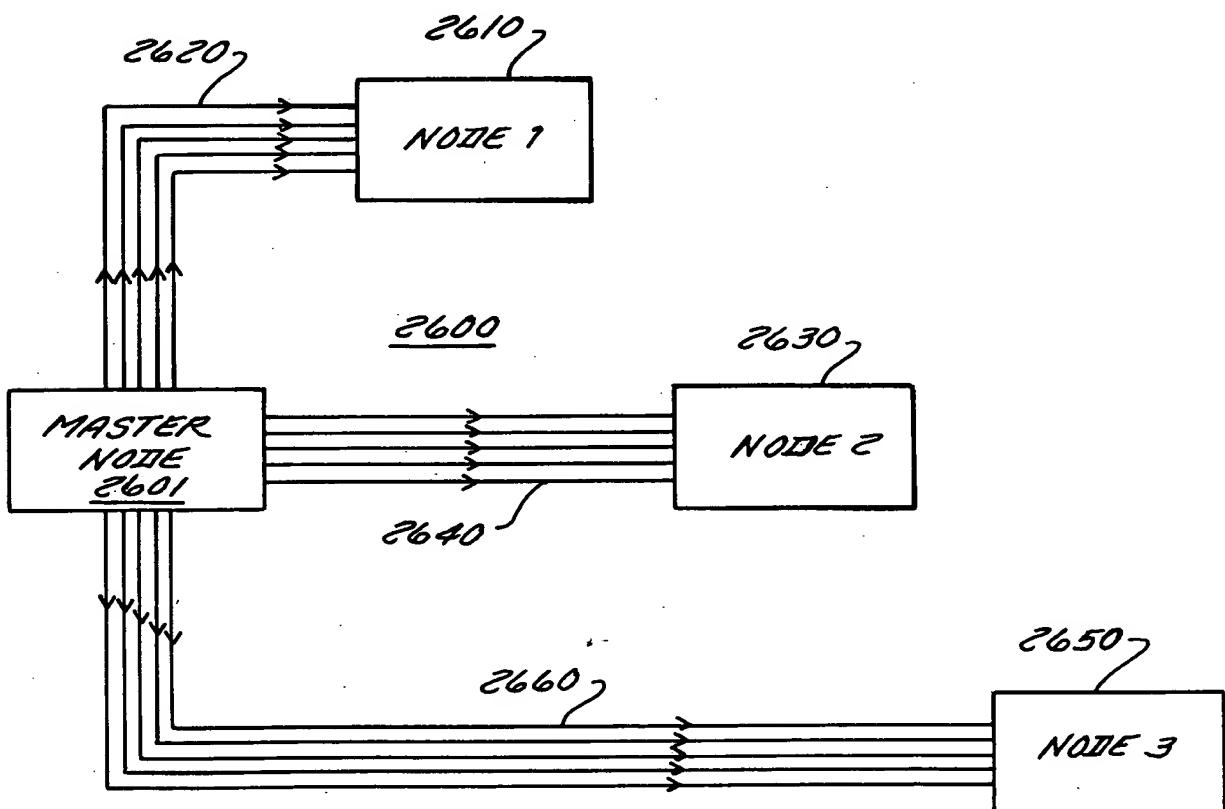


FIG. 19

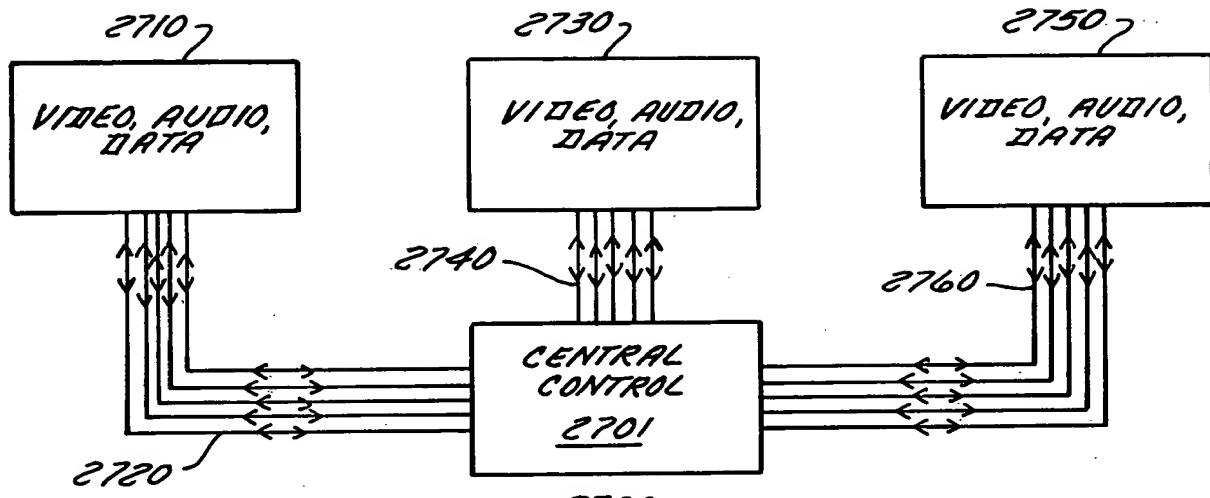


FIG. 20

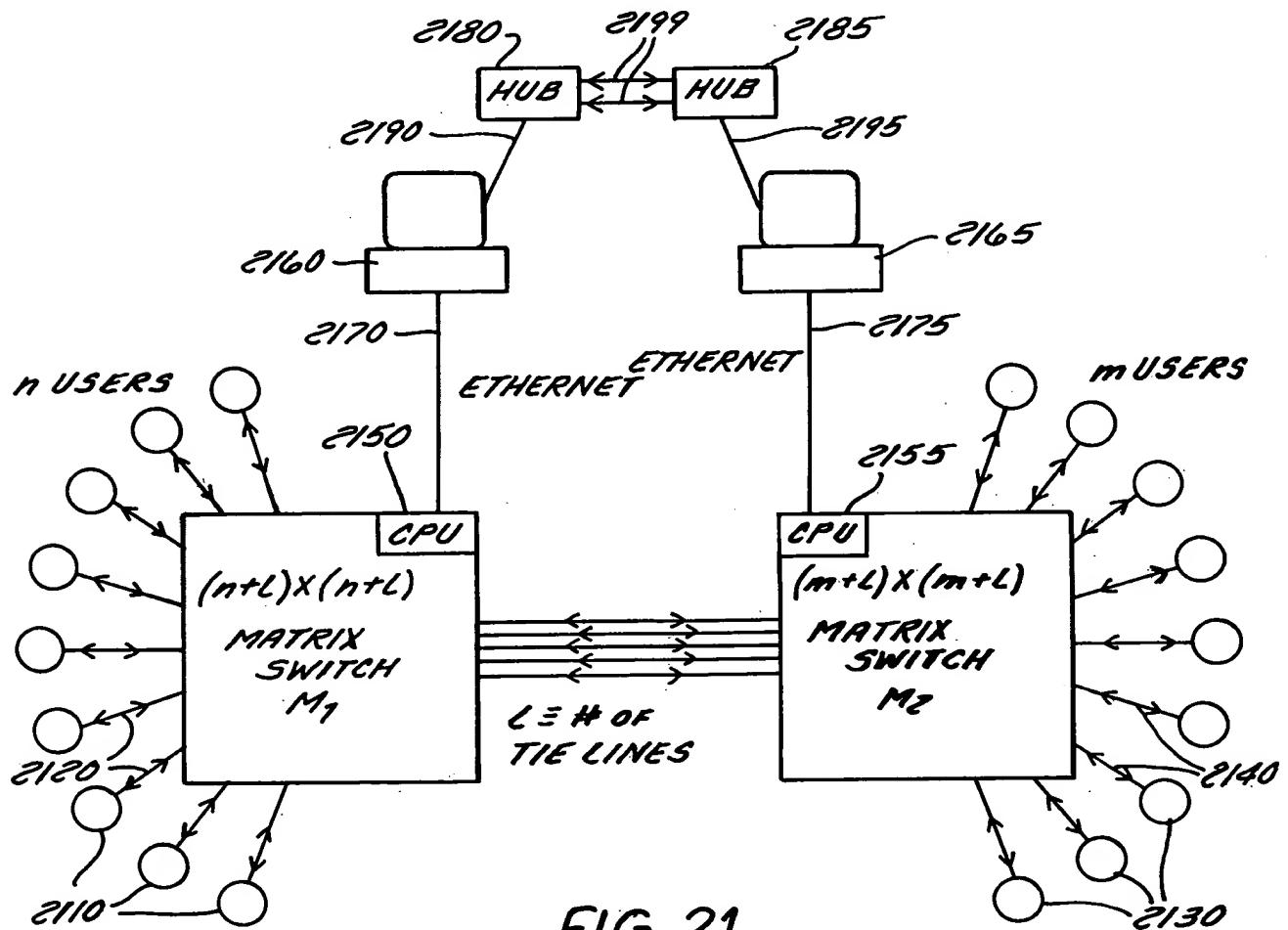


FIG. 21

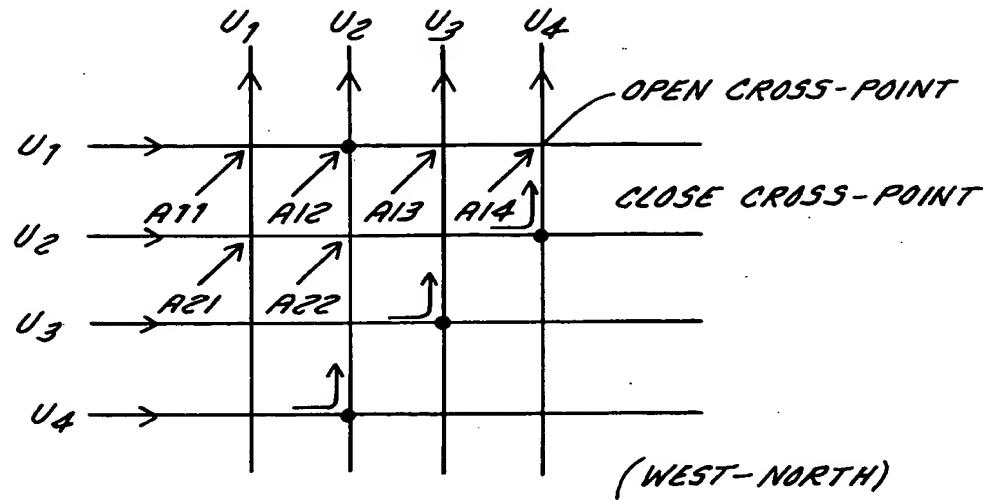


FIG. 22

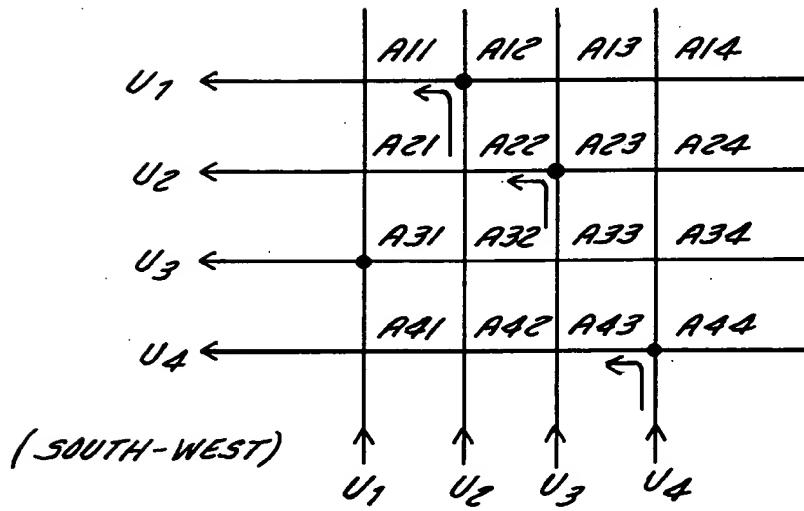


FIG. 23

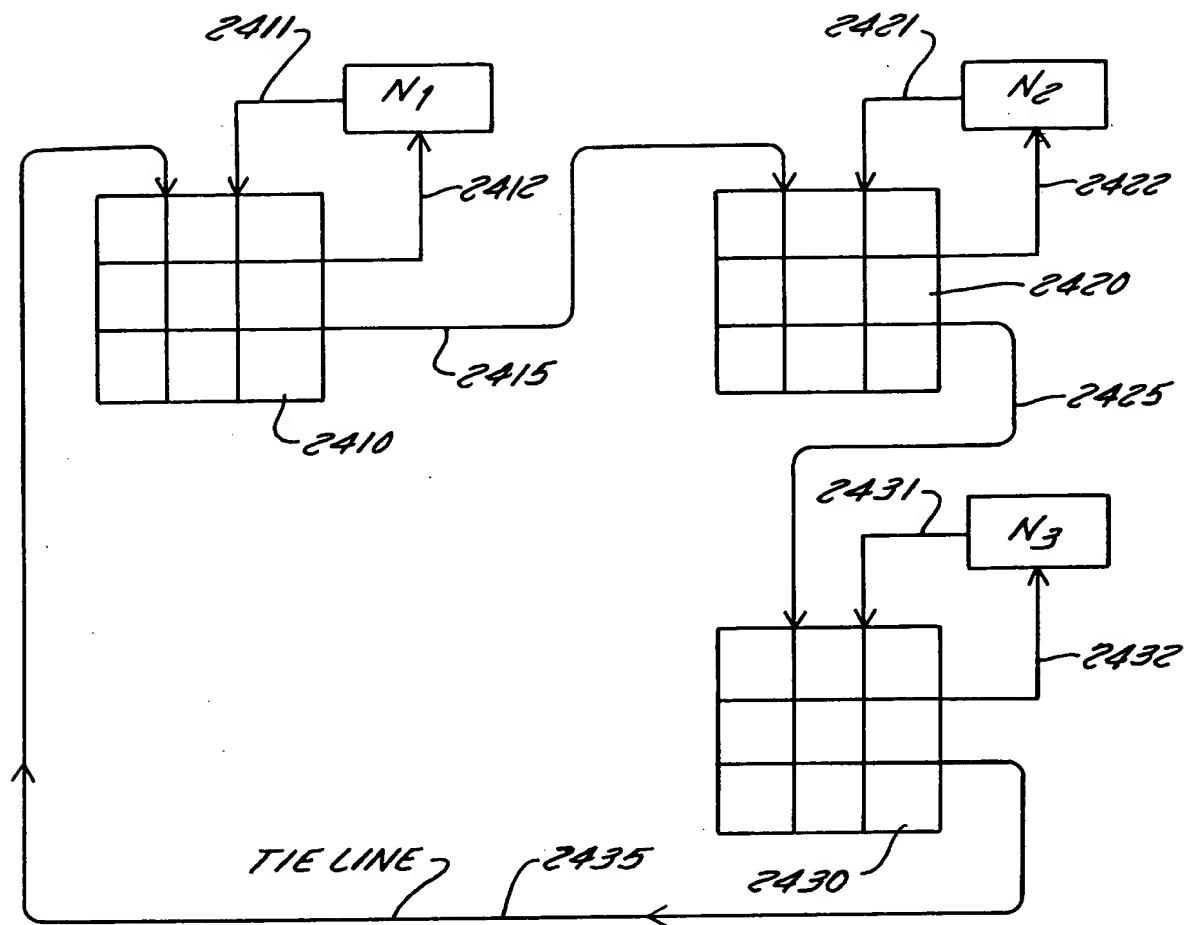


FIG. 24

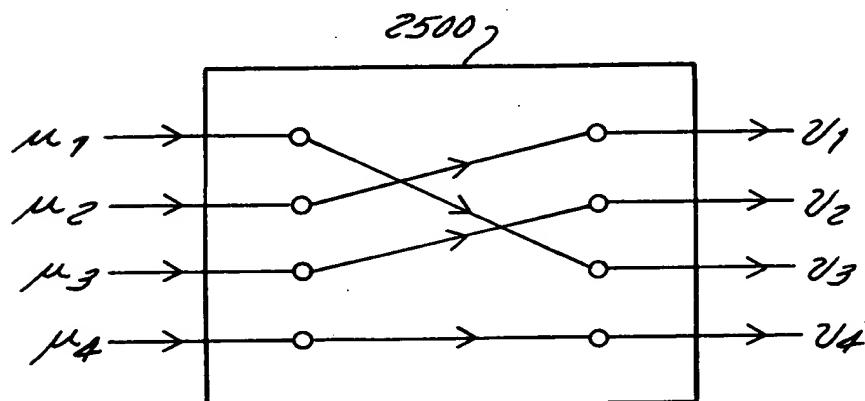


FIG. 25

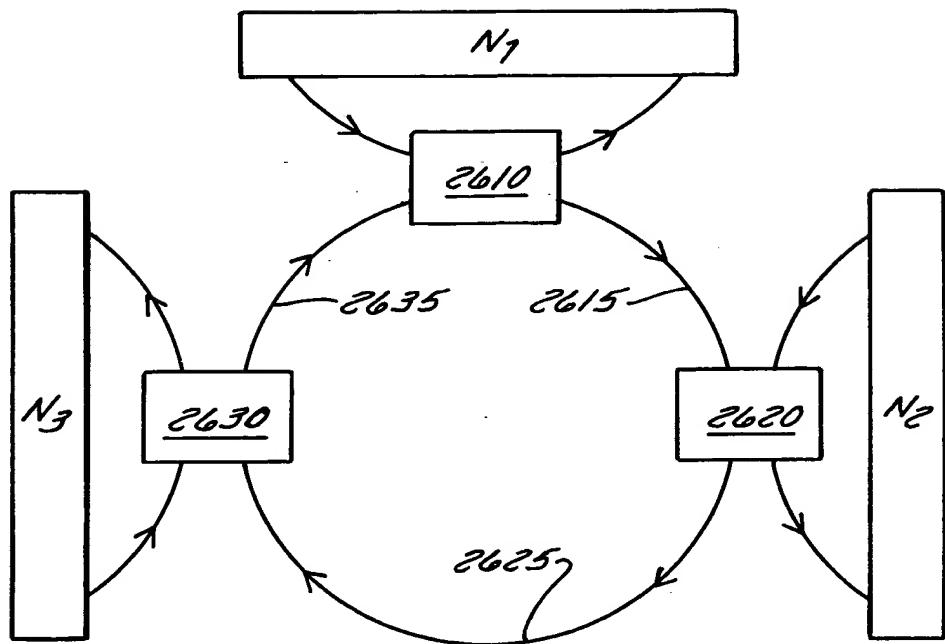


FIG. 26

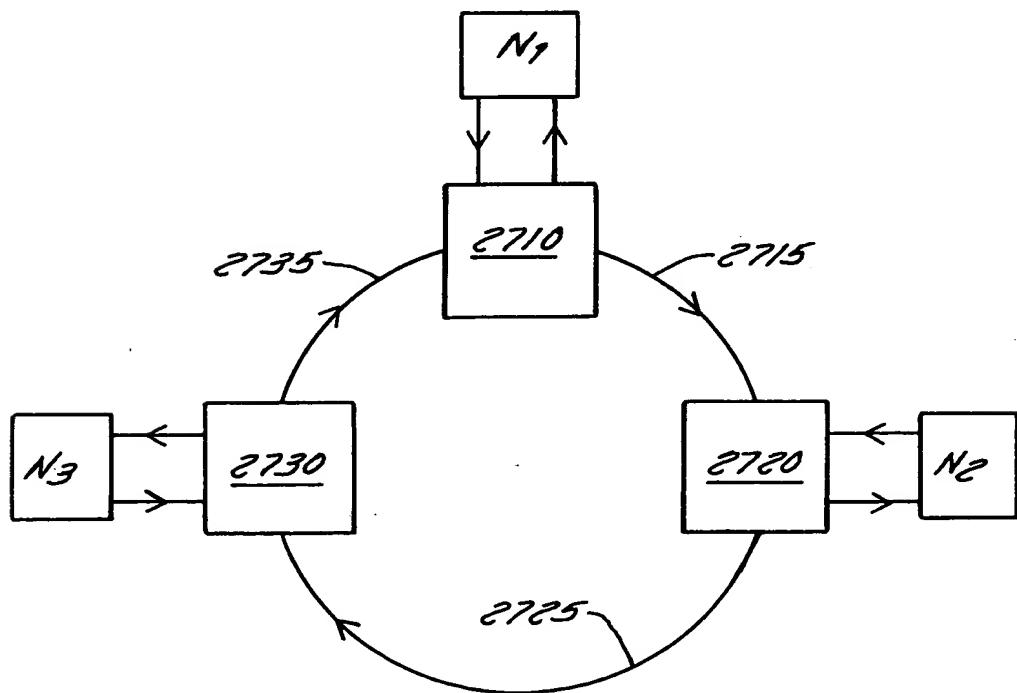


FIG. 27

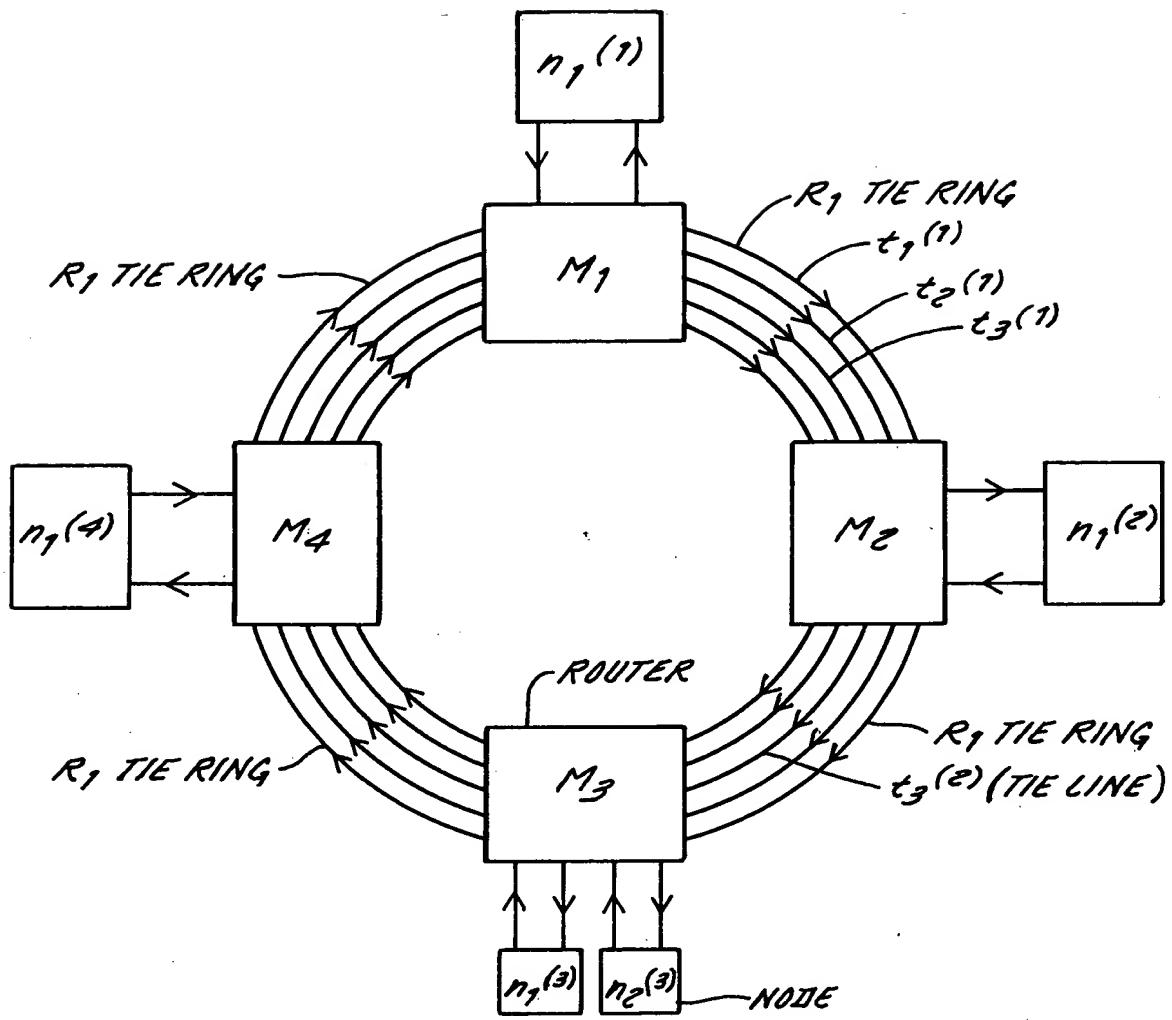


FIG. 28

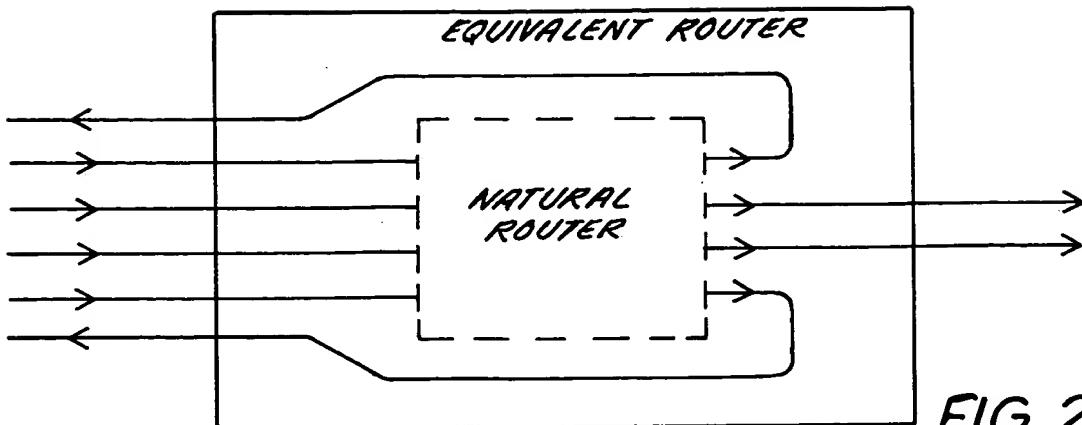


FIG. 29A

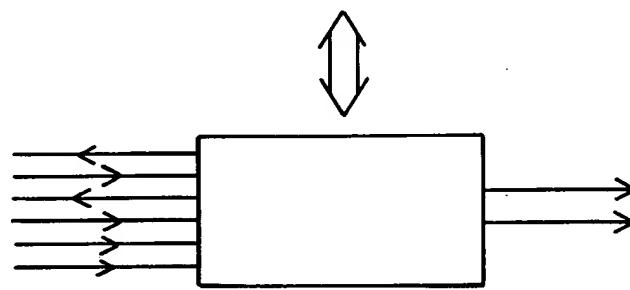


FIG. 29B

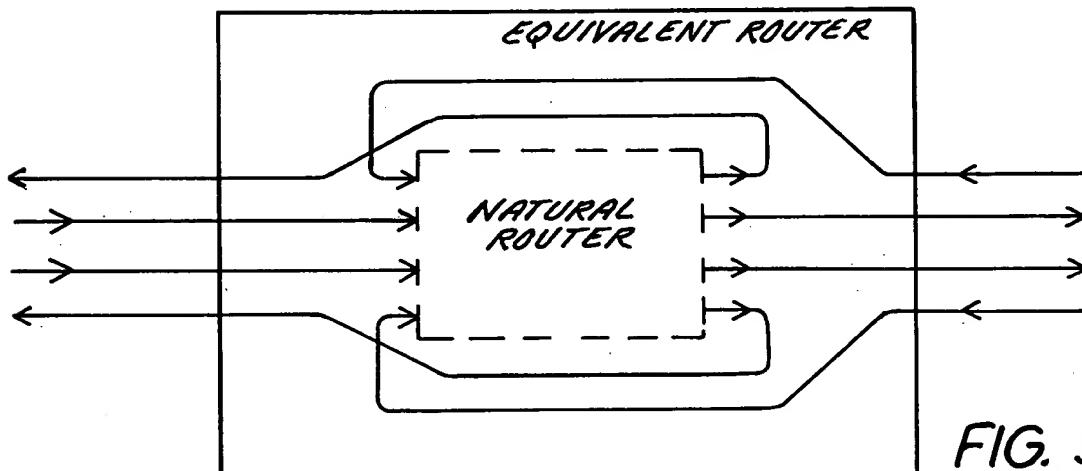


FIG. 30A

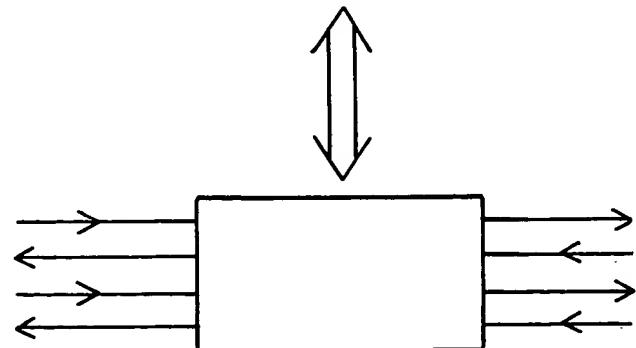


FIG. 30B

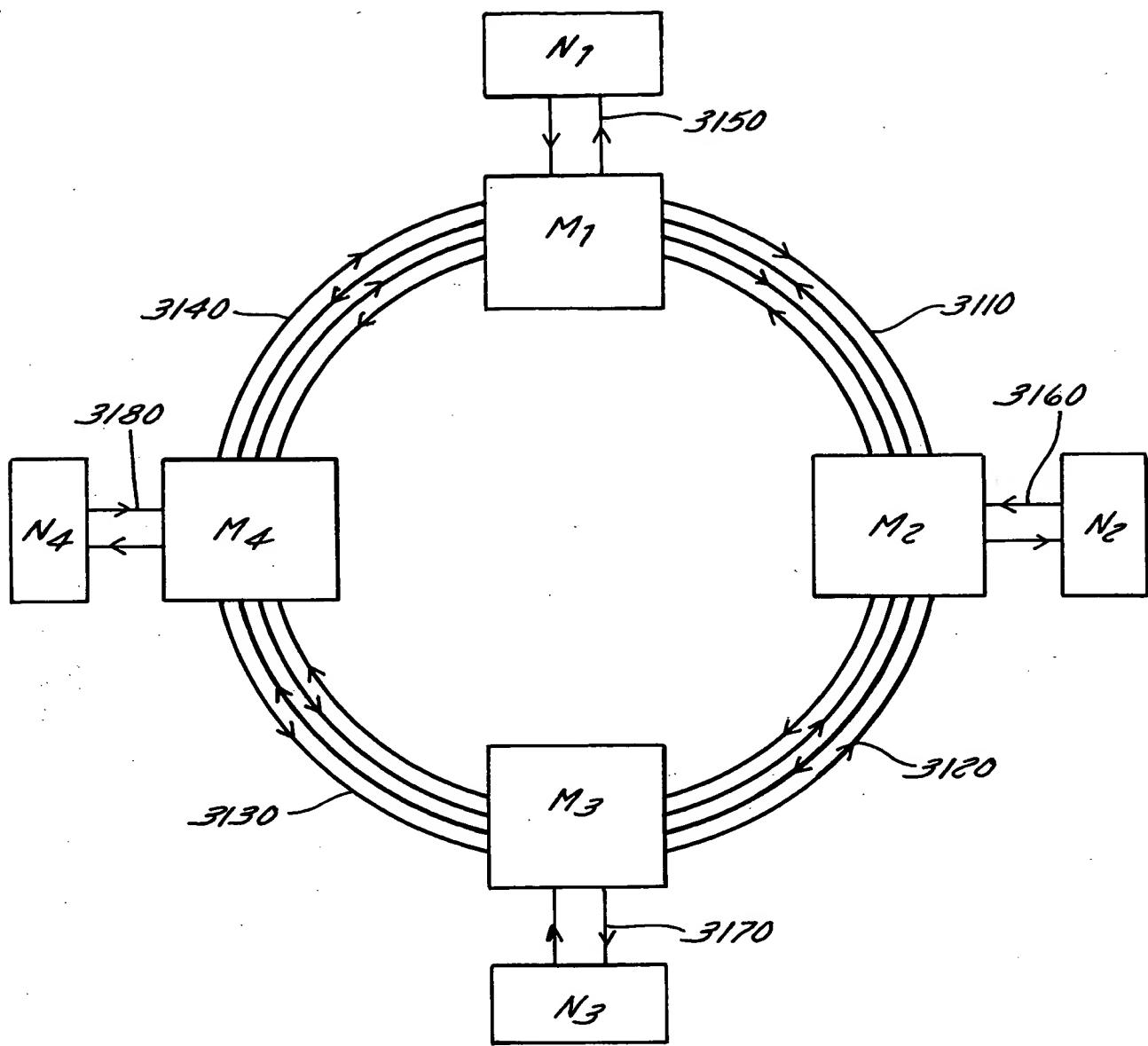


FIG. 31

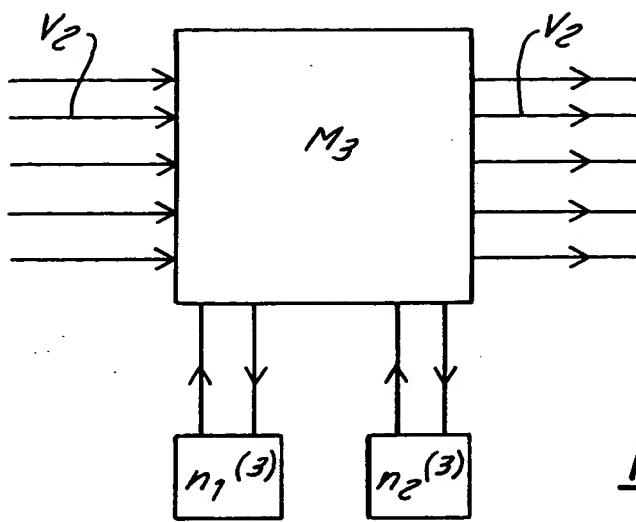


FIG. 32A

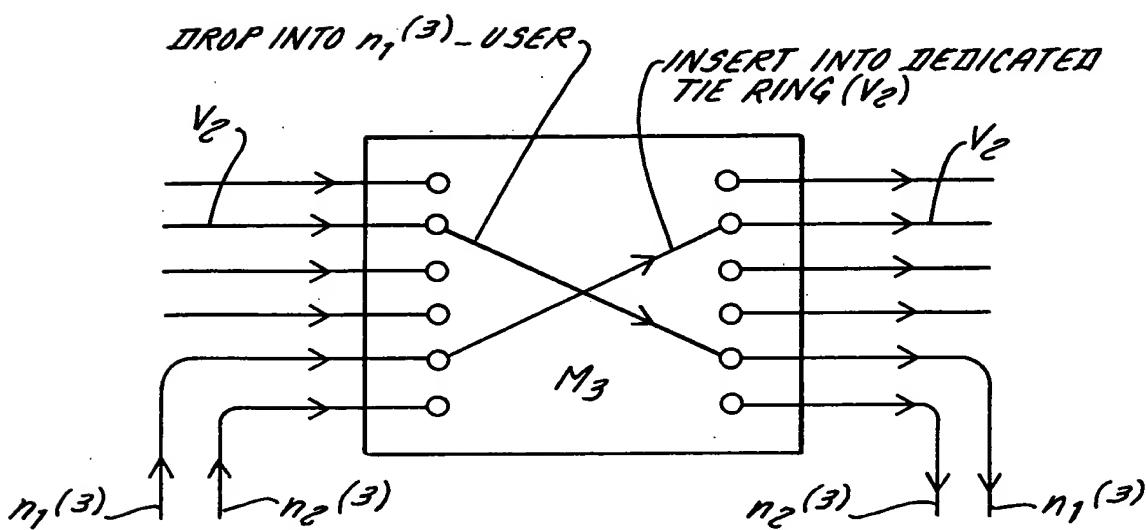


FIG. 32B

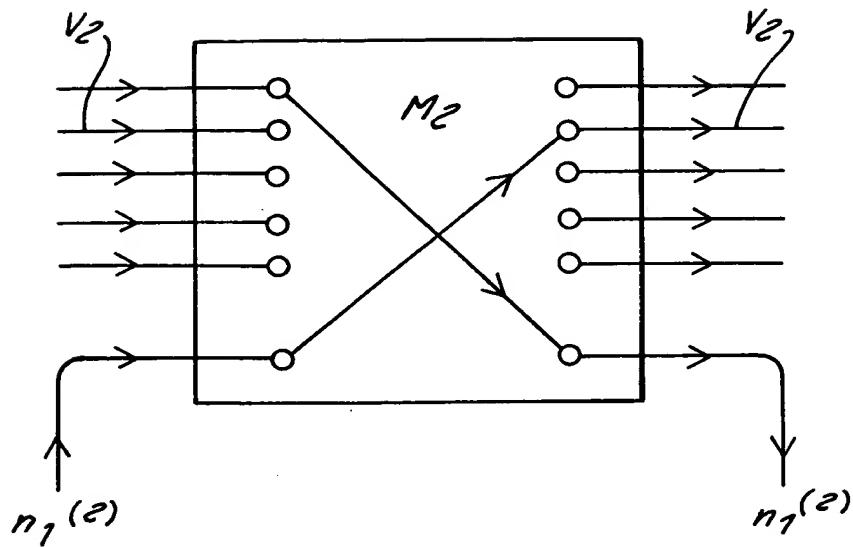


FIG. 32C

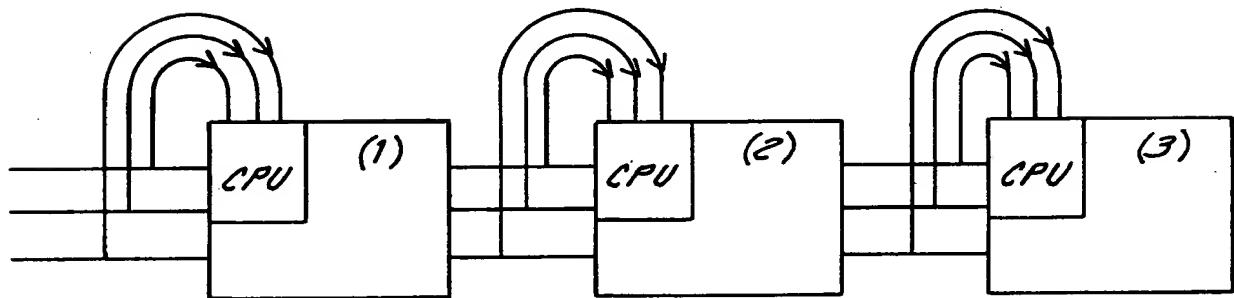


FIG. 32D

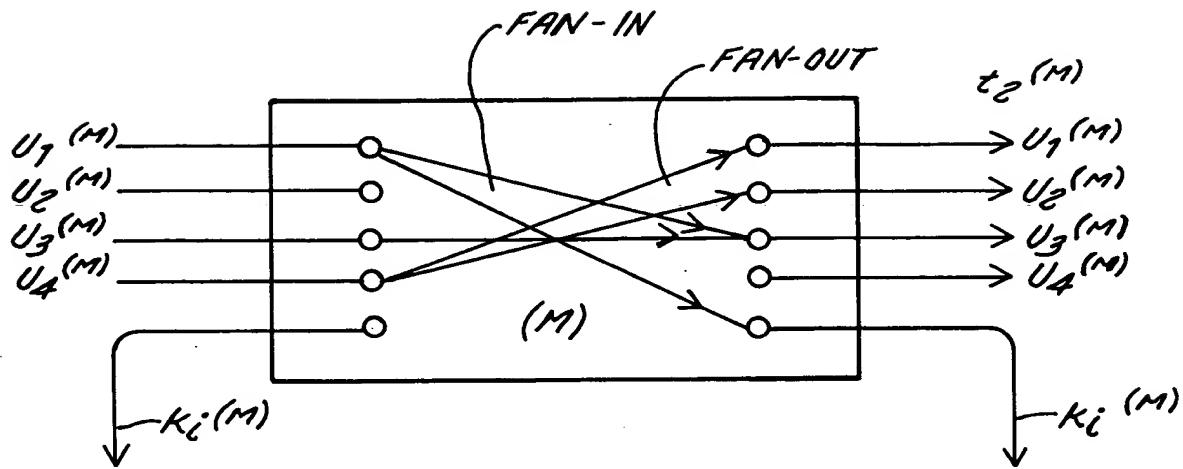


FIG. 33

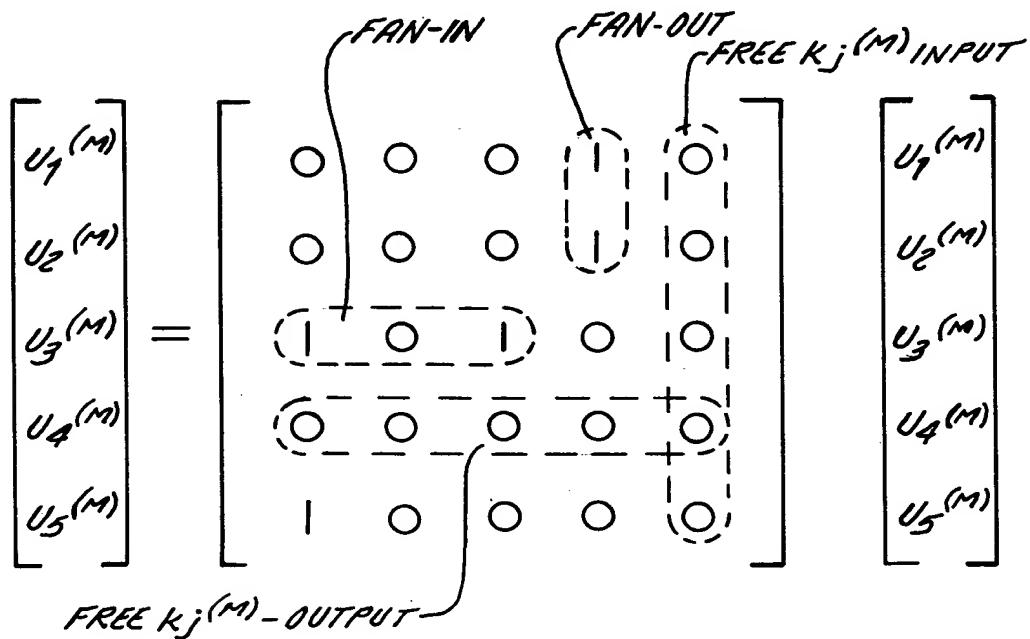


FIG. 34

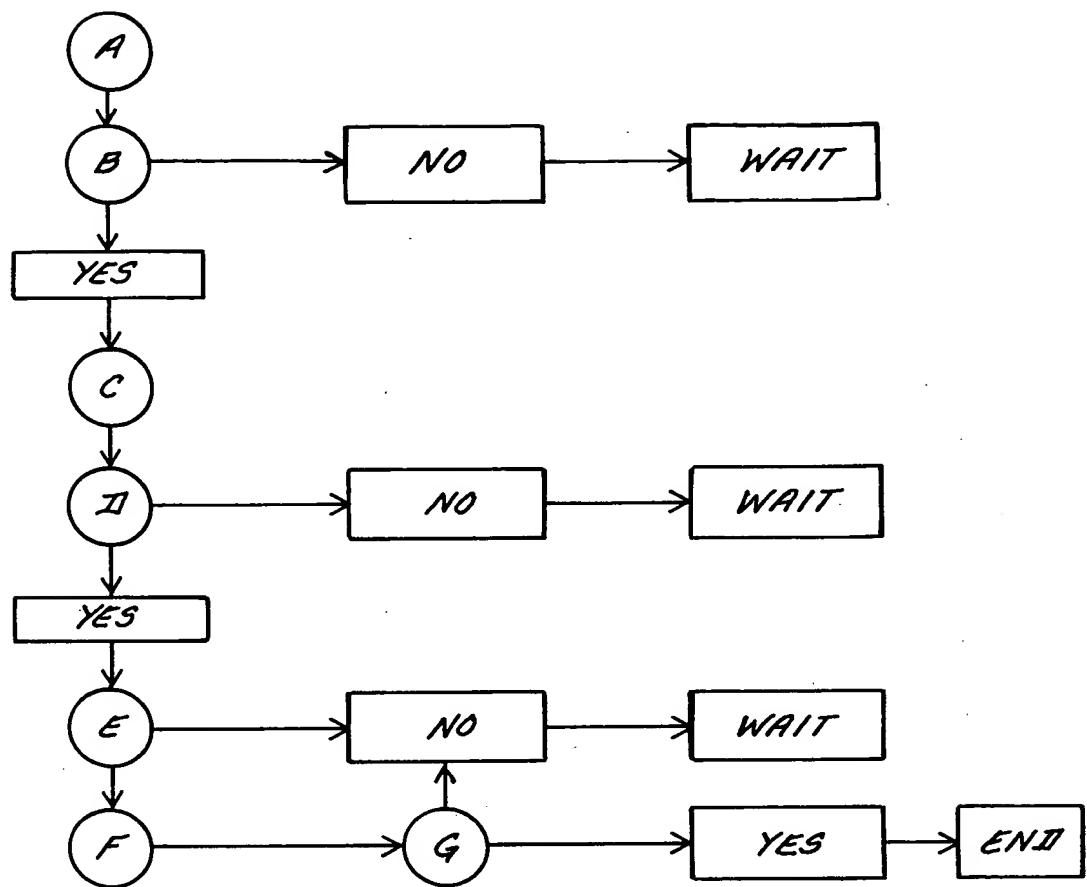


FIG. 35

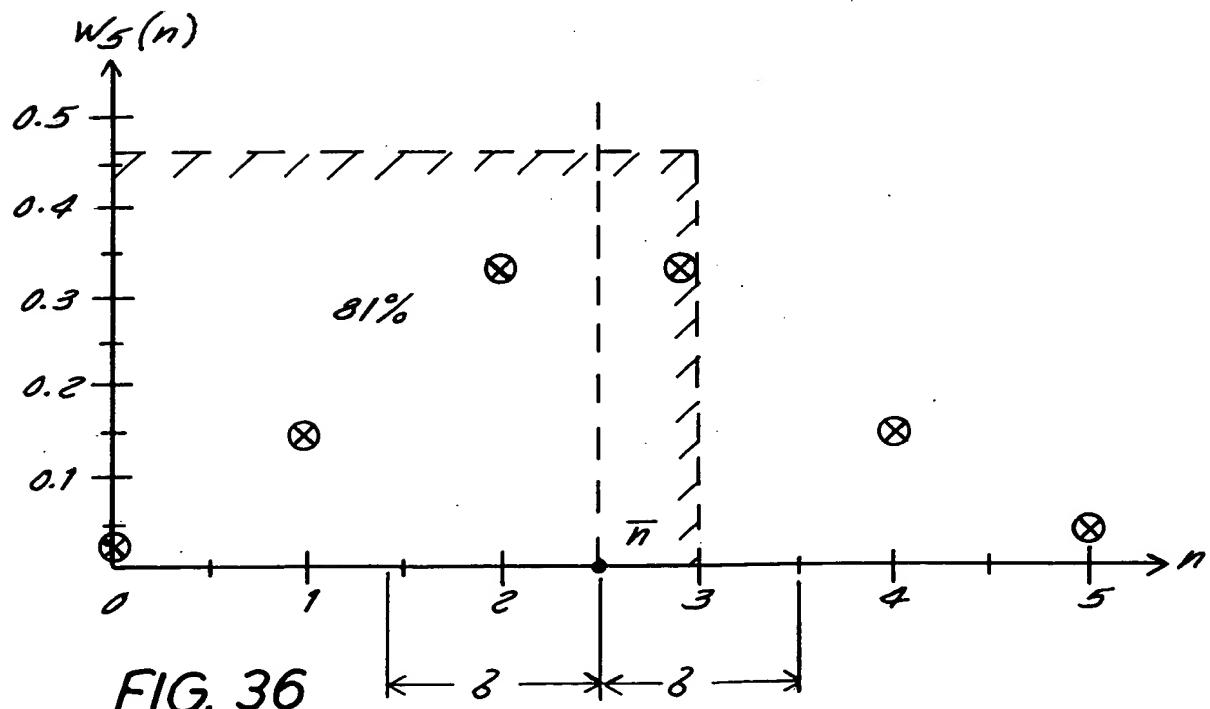


FIG. 36

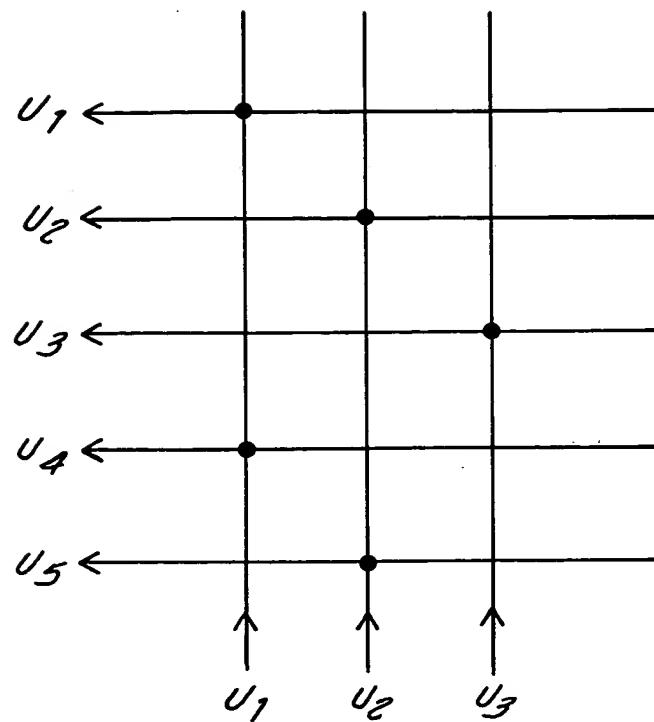


FIG. 37

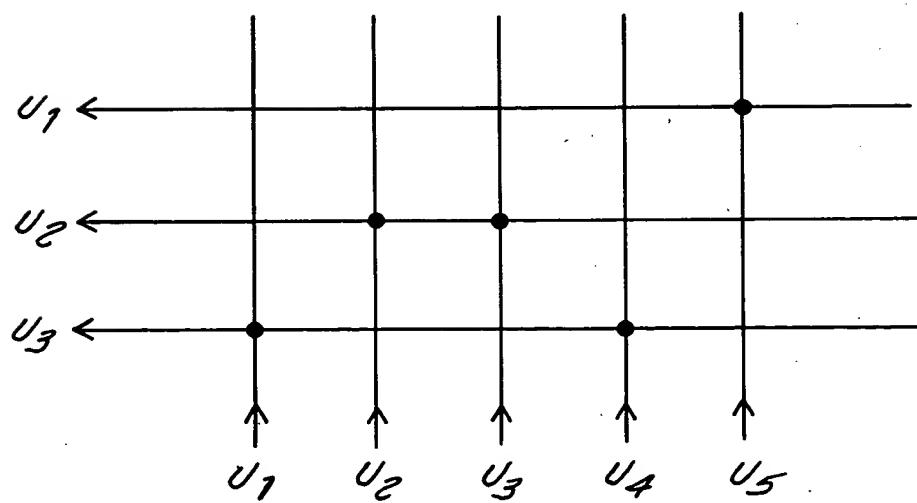


FIG. 38

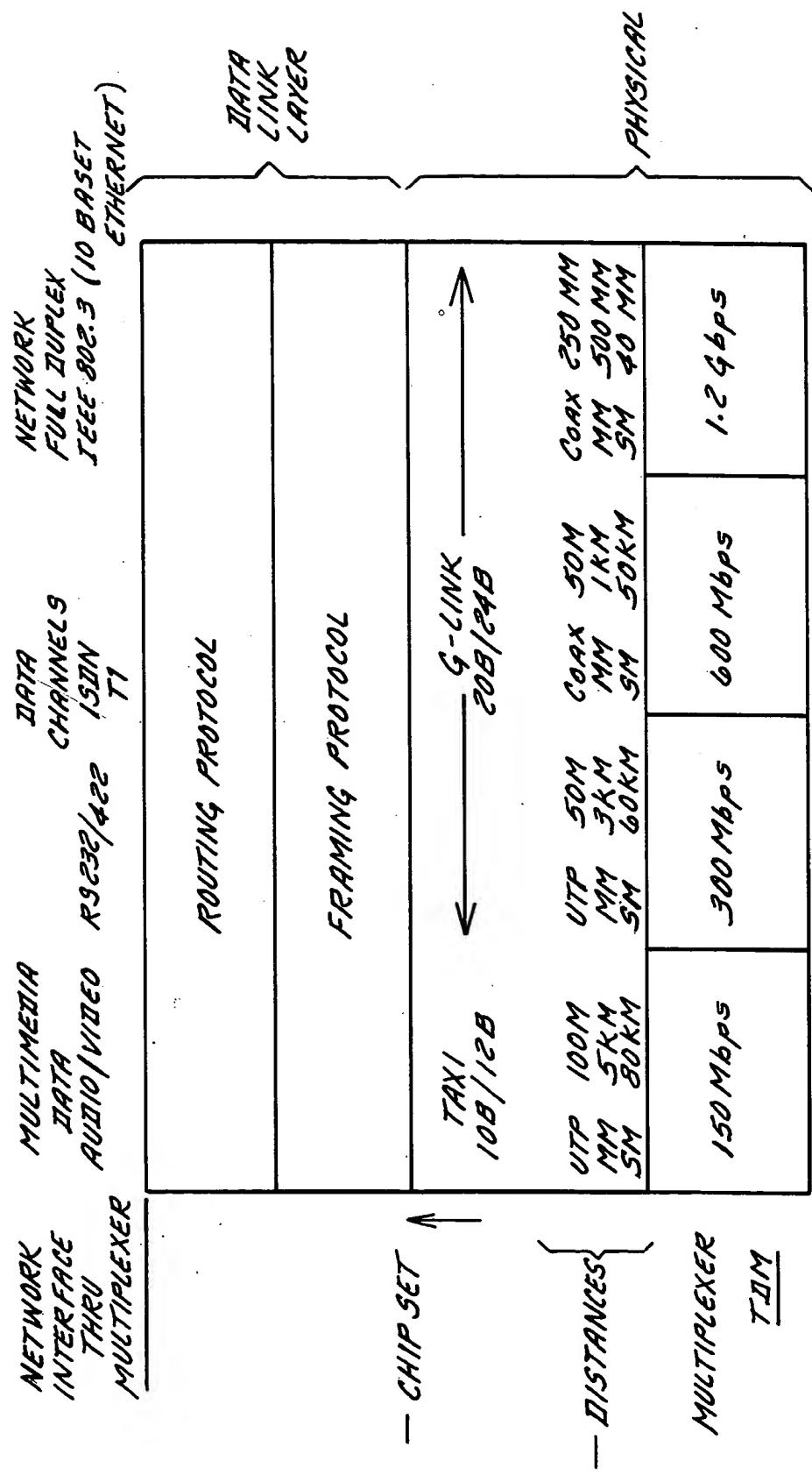


FIG. 39

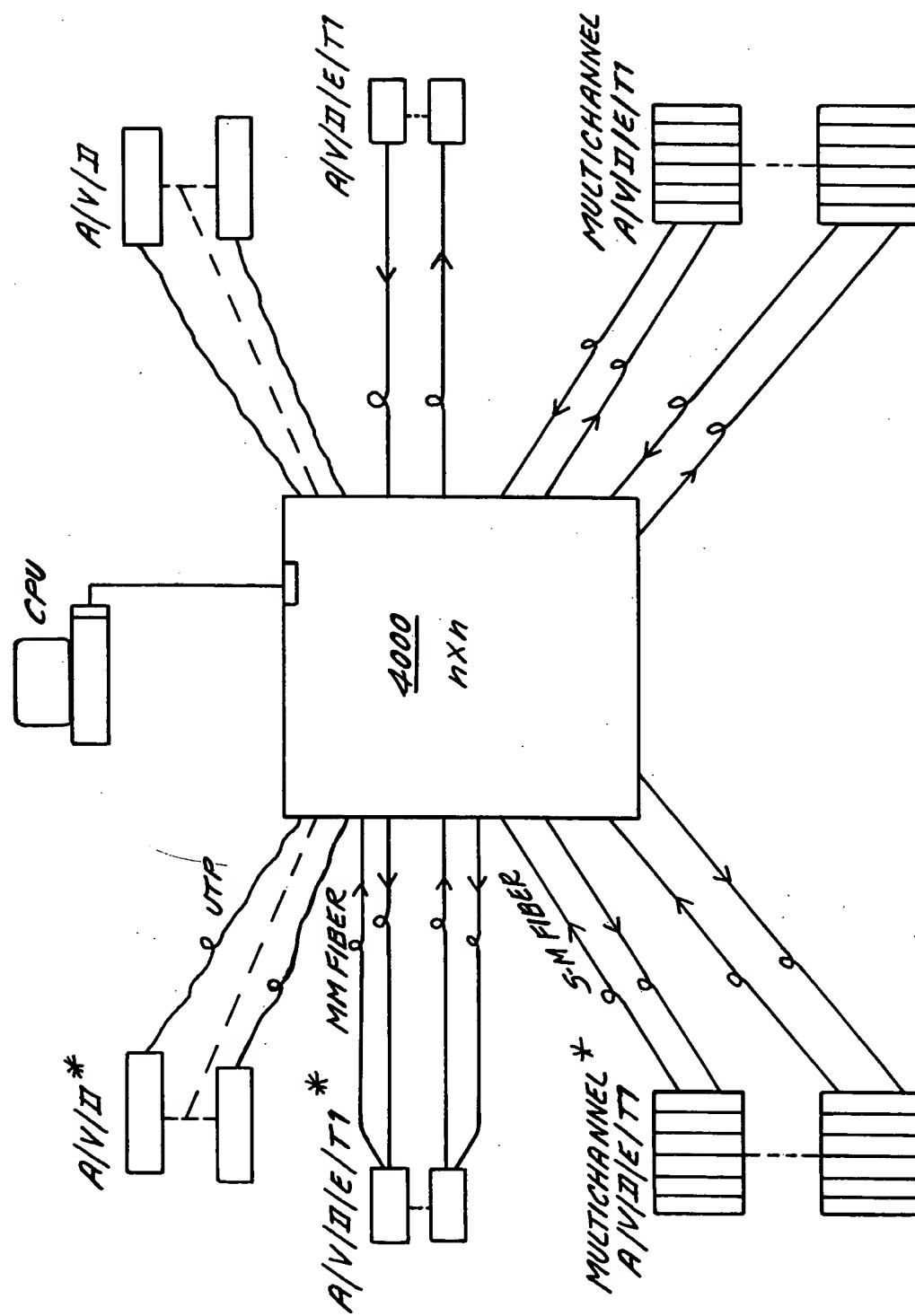


FIG. 40

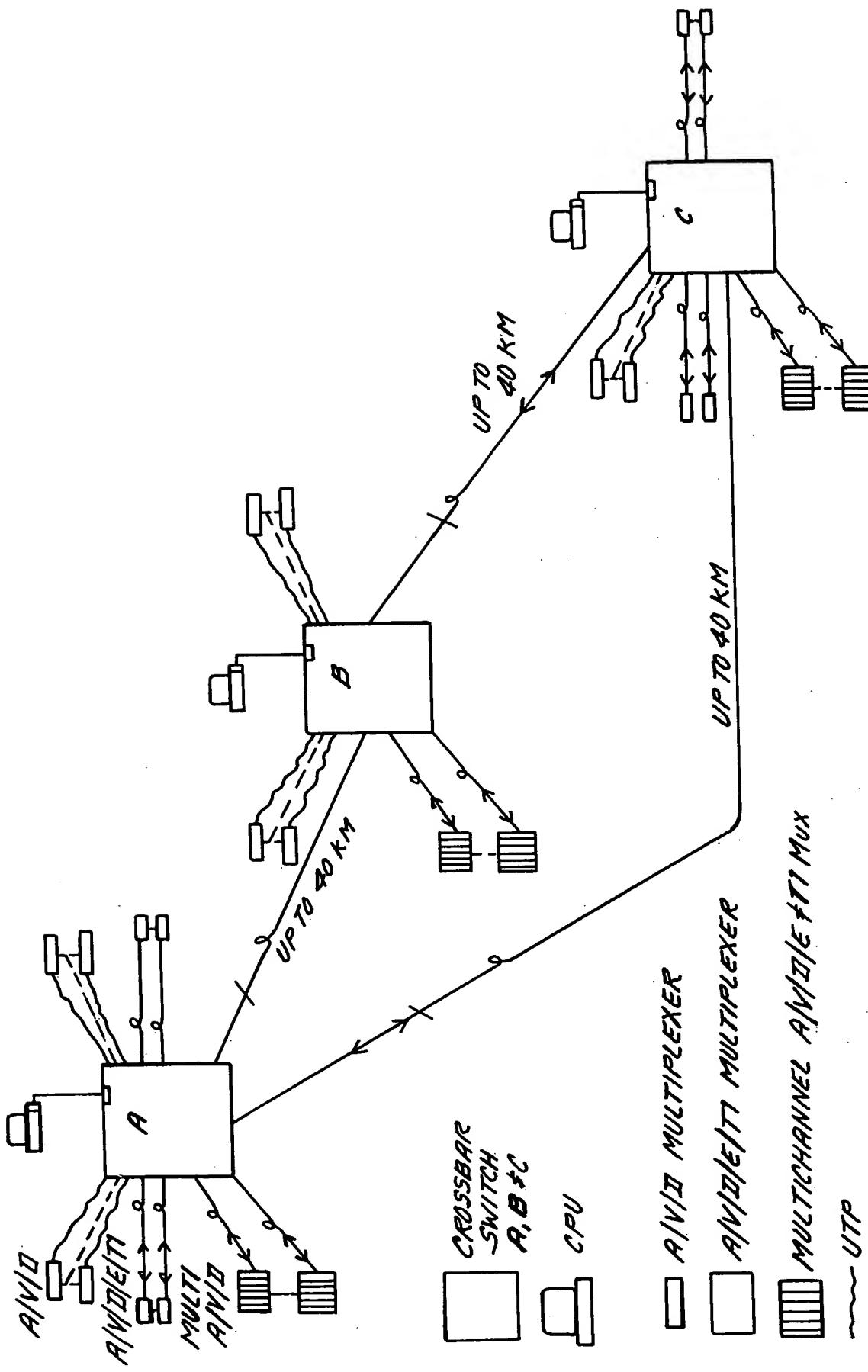


FIG. 41

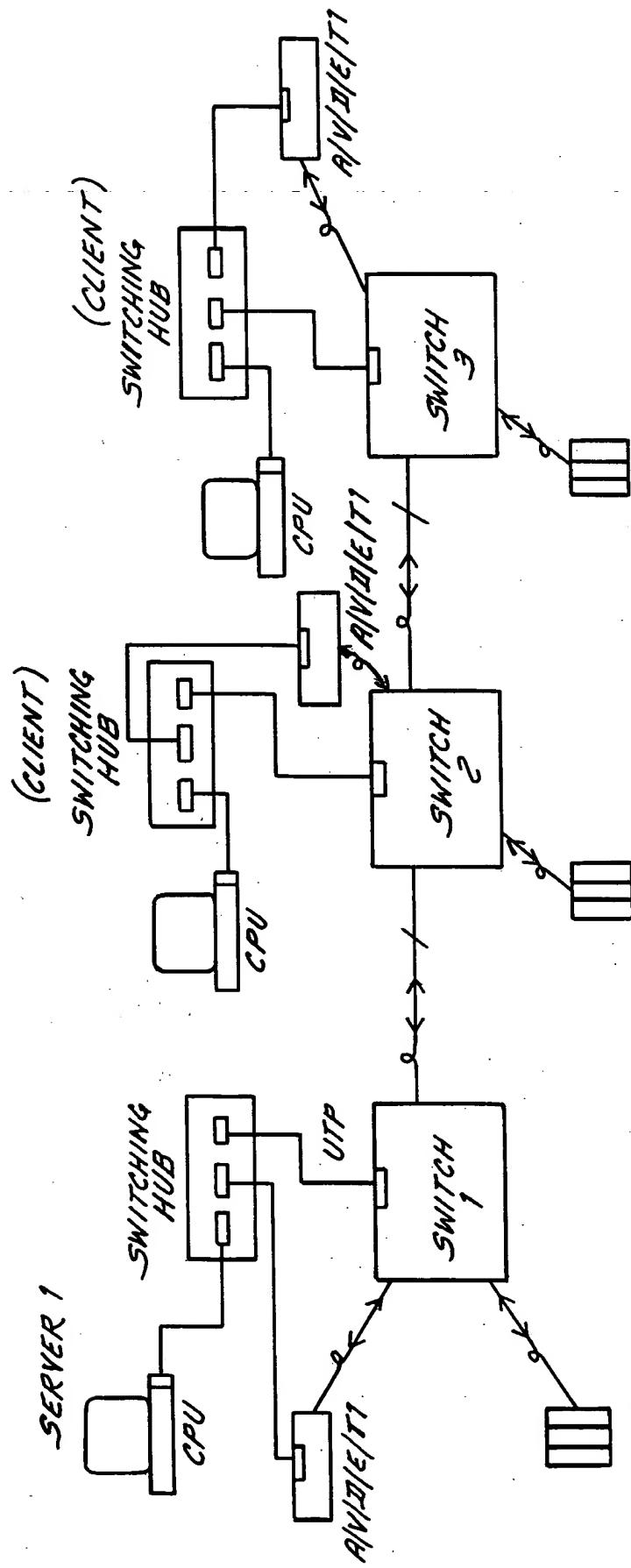


FIG. 42

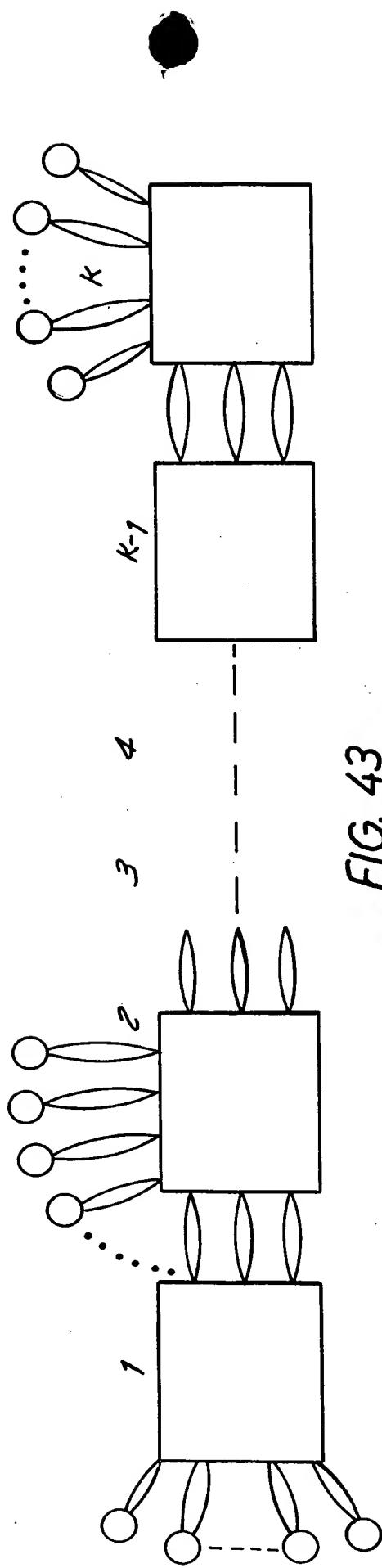


FIG. 43

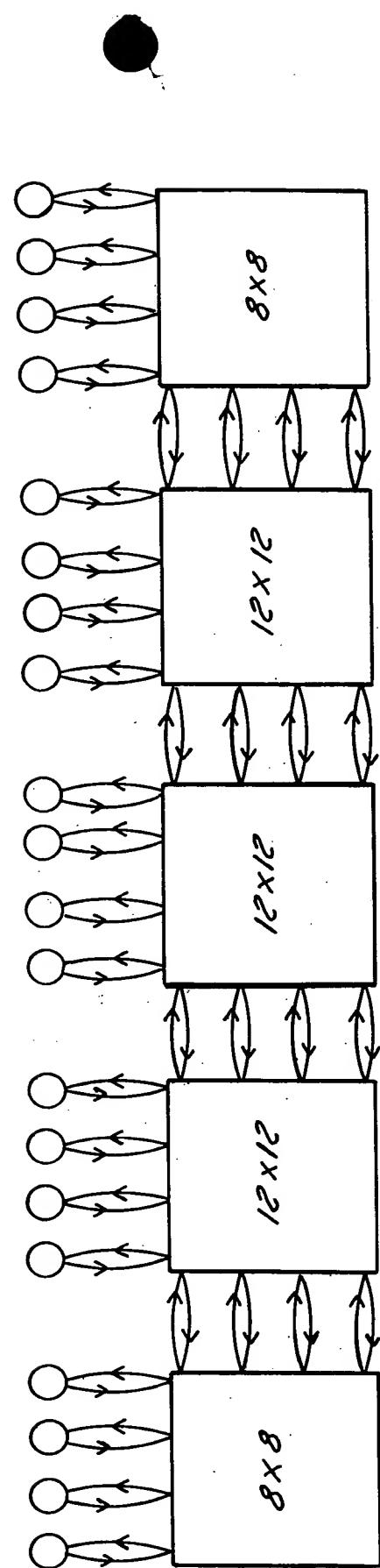


FIG. 44

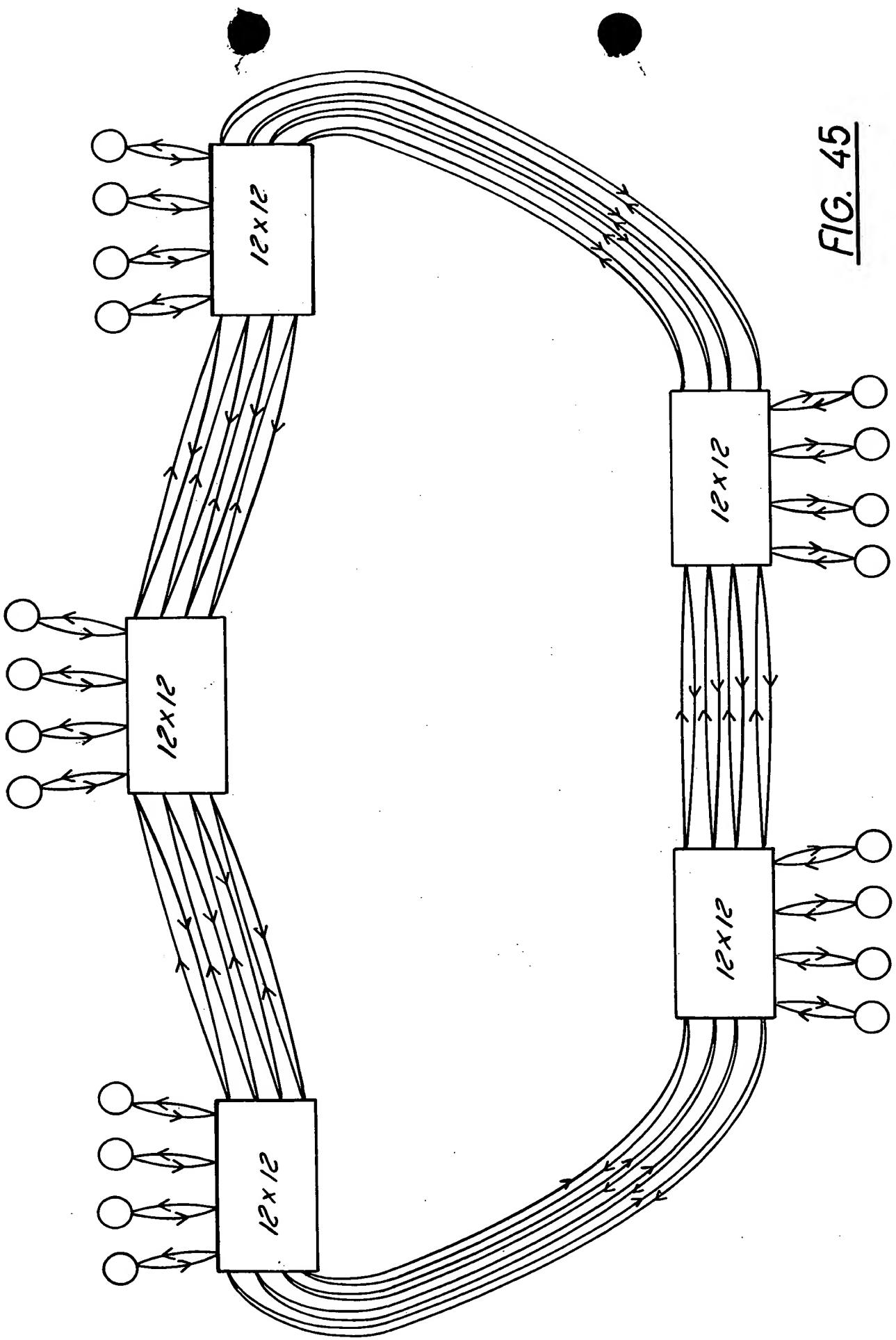


FIG. 45

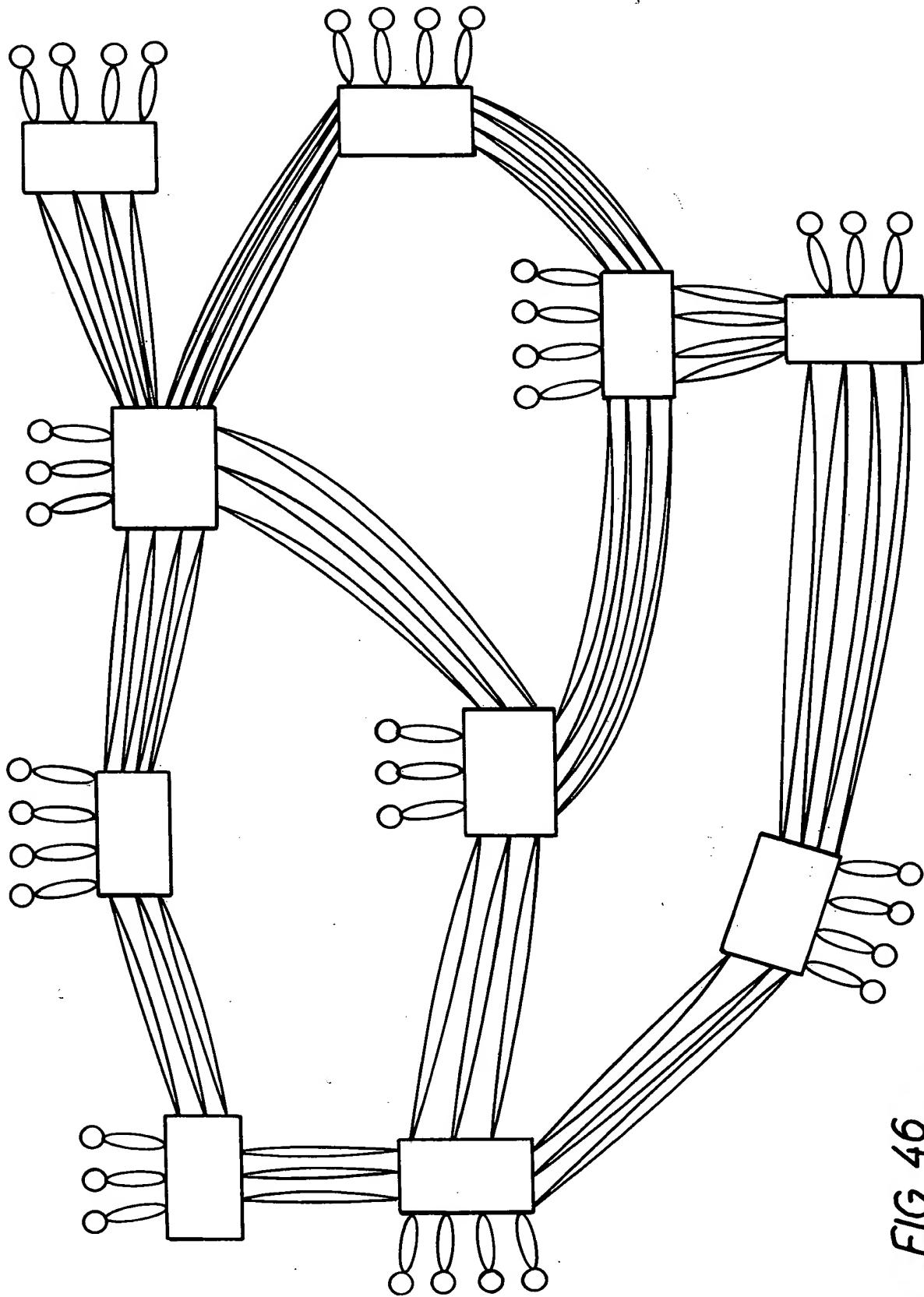


FIG. 46